NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: DRAFT

Region: Asheville Regional Office
County: Haywood
NC Facility ID: 4400159
Inspector's Name: Brendan Davey
Date of Last Inspection: 10/07/2021
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): Blue Ridge Paper Products LLC

Facility Address:
Blue Ridge Paper Products LLC
175 Main Street
Canton, NC 28716

SIC: 2621 / Paper Mills Exc Building Paper
NAICS: 322121 / Paper (except Newsprint) Mills

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

No new regulations were added with this permit modification.

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Andrew Mohr Senior Environmental Engineer (828) 492-6814 175 Main Street Canton, NC 28716	John McCarthy General Manager (828) 646-2840 175 Main Street Canton, NC 28716	Andrew Mohr Senior Environmental Engineer (828) 492-6814 175 Main Street Canton, NC 28716

Application Data

Application Number: 4400159.20C, .20D & .21B
Date Received: 6/16/2020, 11/03/2020, 6/10/2021
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part II

Existing Permit Data
Existing Permit Number: 08961/T29
Existing Permit Issue Date: 06/02/2020
Existing Permit Expiration Date: 10/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	380.30	2927.66	1536.60	1698.51	536.76	824.77	600.04 [Methanol (methyl alcohol)]
2019	463.72	2967.74	1587.94	1672.13	538.52	877.29	642.69 [Methanol (methyl alcohol)]
2018	4494.78	3006.74	1637.84	1632.69	499.04	840.00	616.31 [Methanol (methyl alcohol)]
2017	5875.43	3418.59	1420.30	1830.70	558.09	823.95	624.44 [Methanol (methyl alcohol)]
2016	7195.93	4224.22	1377.79	1500.32	675.70	861.11	606.17 [Methanol (methyl alcohol)]

Review Engineer: Connie Horne

Review Engineer's Signature: **Date:** DRAFT

Comments / Recommendations:
Issue 08961/T30
Permit Issue Date: DRAFT
Permit Expiration Date: October 31, 2021

1. Purpose of Application

This permit action is for Part II of a two-step process allowed under 15A NCAC 02Q .0501(b)(2). The Rule states:

(b) With the exception in Paragraph (c) of this Rule, the owner or operator of an existing facility, new facility, or modification of an existing facility (except for minor modifications under Rule .0515), including significant modifications that would not contravene or conflict with a condition in the existing permit, subject to the requirements of this Section shall not begin construction without first obtaining:

(1) …, or

(2) a construction and operation permit following the procedures set forth in 15A NCAC 02Q .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section.

The Permittee was last issued a construction and operation permit on June 2, 2020 (08961T29).

According to the Part II application received on June 16, 2020 (4400159.20C), Blue Ridge Paper Products commenced operation of the West GB evaporator reconfiguration project on June 5, 2019. Therefore, the Part II application was received within the 12-month period after commencing operation, as required. The technical review for the Part I application (4400159.18H) is attached to this document.

On November 3, 2020, an additional Part II application was received (4400159.20D) for burning No. 2 Fuel Oil in No 10 and No. 11 Recovery Furnaces (G08020 & G08020) and No. 4 and No. 5 Lime Kilns (G09028 & G09029). This Part II application was received within the 12-month period after commencing operation, as required. The technical review for the Part I application (4400159.19A) is attached to this document.

On June 10, 2021, an additional Part II application was received (4400159.21B) for the Recausticizing Area Optimization project. This Part II application was received within the 12-month period after commencing operation, as required. The technical review for the Part I application (4400159.20B) is attached to this document.

2. Facility Description

Evergreen Packaging operates Blue Ridge Paper Products LLC (Blue Ridge Paper), an integrated kraft pulp and paper mill located in Canton, Haywood County, North Carolina. Blue Ridge Paper currently holds Title V Permit No. 08961T29 with an expiration date of October 31, 2021.

3. Application Chronology

June 16, 2020	Part II application (.20C) for West GB Evaporator Modification received and deemed complete
November 3, 2020	Part II application (.20D) for burning No. 2 Fuel Oil in No 10 and No. 11 Recovery Furnaces (G08020 & G08020) and No. 4 and No. 5 Lime Kilns (G09028 & G09029) received and deemed complete
May 5, 2021	Renewal application (.21A) received and deemed complete
June 10, 2021	Part II application (.21B) for the Recausticizing Area Optimization project received and deemed complete
August 3, 2022	Draft to applicant and Asheville Regional Office (ARO)
DRAFT	Draft to public notice and EPA
DRAFT	Public comment period expires
DRAFT	EPA Comment period expires
DRAFT	Final Permit issued

4. Permit Modifications/Changes

The table below outlines the proposed changes to the current permit (08961T29):

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

5. Other Regulatory Requirements

- An application fee of $988 is required and was received by DAQ on 6/16/20 for application 20C. An application fee of $988 is required and was received by DAQ on 11/6/20 for application 20D. An application fee of $1002 is required and was received by DAQ on 5/4/21 for application 21B.
- The appropriate number of application copies was received with the submittal of each application.
- Haywood County has triggered increment tracking under PSD for NO_X. Any increment changes associated with this modification were addressed in the Part I permit application Nos. 4400159.18H, 4400159.19A and 4400159.20B.
- A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.
- The associated dates are listed in the Application Chronology section above.

6. Facility Compliance Status/Compliance History:

DAQ has reviewed the compliance status of this facility with respect to its Title V Air Permit. Due to its size and complexity, the Blue Ridge Paper mill is inspected in phases. The most recent inspection of the facility was conducted on October 7, 2021, by Mr. Brendan Davey with the Asheville Regional Office (ARO). According to the inspection report, the following is a five-year compliance history.

Date	Letter Type	Rule Violated	Resolution Date
06/20/2022	NOV	2D .0508 Particulates from Pulp and Paper Mills	N/A
10/12/2021	NOV/NRE	2D .0501 Compliance with Emission Control Standards	03/14/2022
10/12/2021	NOV/NRE	2D .0521 Control of Visible Emissions	03/14/2022
05/12/2021	NOV	2D .0501 Compliance with Emission Control Standards	05/28/2021
05/12/2021	NOV	Part 63 - NESHAP/MACT Subpart MM Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill	05/28/2021
03/23/2021	NOV	Part 63 - NESHAP/MACT Subpart MM Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill	04/15/2021
10/13/2020	NOV	2Q .0501 Purpose of Section and Requirement for a Permit	10/30/2020
10/13/2020	NOV	2Q .0508 Permit Content	11/02/2020
10/13/2020	NOV	Part 63 - NESHAP/MACT Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters	11/02/2020
10/13/2020	NOV	2D .0501 Compliance with Emission Control Standards	11/02/2020
05/14/2020	NOV	Part 63 - NESHAP/MACT Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters	09/16/2020
10/22/2019	NOV	Part 63 - NESHAP/MACT Subpart DDDDD Industrial, Commercial, and Institutional Boilers and Process Heaters	11/14/2019
10/09/2018	NOV/NRE	2D .0515 Particulates from Miscellaneous Industrial Processes	10/24/2018
10/09/2018	NOV/NRE	Permit - Permit Condition	10/24/2018

7. Conclusions, Comments and Recommendations

The issuance of Air Quality Permit No. 08961T30 to Blue Ridge Paper Products LLC is recommended.

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: **January 31, 2019**

Region: Asheville Regional Office
County: Haywood
NC Facility ID: 4400159
Inspector's Name: Brendan Davey
Date of Last Inspection: 12/19/2018
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): Blue Ridge Paper Products LLC

Facility Address:
Blue Ridge Paper Products LLC
175 Main Street
Canton, NC 28716

SIC: 2621 / Paper Mills Exc Building Paper
NAICS: 322121 / Paper (except Newsprint) Mills

Facility Classification: Before: Title V **After:**
Fee Classification: Before: Title V **After:**

Permit Applicability (this application only)

SIP: 02D .05030(u)
NSPS: NA
NESHAP: NA
PSD: NA
PSD Avoidance: 02D .0530(u)
NC Toxics: NA
112(r): NA
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716	Wallace McDonald General Manager (828) 646-2840 175 Main Street Canton, NC 28716	Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716

Application Data

Application Number: 4400159.18H
Date Received: 10/03/2018
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 08961/T24
Existing Permit Issue Date: 07/25/2018
Existing Permit Expiration Date: 10/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	5875.43	3418.59	1420.30	1830.70	558.09	823.95	624.44 [Methanol (methyl alcohol)]
2016	7195.93	4224.22	1377.79	1500.32	675.70	861.11	606.17 [Methanol (methyl alcohol)]
2015	7810.81	4325.84	1400.35	1549.11	711.16	798.89	599.37 [Methanol (methyl alcohol)]
2014	7593.86	4344.54	1481.26	2922.19	728.55	818.32	610.26 [Methanol (methyl alcohol)]
2013	8004.07	4284.98	1446.31	2975.07	726.96	813.89	602.82 [Methanol (methyl alcohol)]

Review Engineer: Joseph Voelker

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 08961/T25
Permit Issue Date: 01/31/2019
Permit Expiration Date: 10/31/2021

I. Introduction and Purpose of Application

Evergreen Packaging operates Blue Ridge Paper Products, Inc. (Blue Ridge Paper), an integrated Kraft pulp and paper mill located in Canton, Haywood County, North Carolina. Blue Ridge Paper currently holds Title V Permit No. 08961T24 with an expiration date of October 31, 2021.

Blue Ridge proposes converting the West GB Evaporator into a six-body, five-effect evaporator to increase the evaporation capacity and allow processing of more liquor-contaminated water concurrently with the weak black liquor from the pulp mill.

It will be shown that since the project will rely on a projected actual to baseline actual emissions calculation to avoid triggering PSD review, the permit must be modified to include recordkeeping requirements associated with the proposed project pursuant to 15A NCAC 02D .0530(u).

The permit application will be processed in a two -step fashion pursuant to 15A NCAC 02Q .0504.

II. Chronology

Date	Description
08/06/2018	Applicability determination received in the RCO and assigned no. 3288 to address the East GB Evaporation reconfiguration.
08/16/2018	A letter was sent to the facility stating that insufficient information had been submitted to make a determination. The letter requested enough information to assess if the project triggered PSD or NSPS requirements
10/03/2018	Application was deemed incomplete because of signature did not reflect those of the RO.
10/30/2018	Revised A and E forms received in the RCO
01/11/2018	Application assigned to JMV
01/14/2018	ADD INFO email sent to Permittee requesting calculations in spreadsheet form to facilitate review.
1/17/2018	ADD INFO email sent to Permittee requesting additional information regarding project cost.
1/22/2018	ADD INFO email sent to Permittee requesting additional information regarding the recordkeeping of PM total to include PM condensable.
1/28/2018	All ADD INFO information submitted.

III. Modification Description

The scope of the project was originally described in permit applicability request no. 3288 received on August 06, 2018. The following language is excerpted from that request.

> The Blue Ridge Paper Products Canton Mill (Blue Ridge) operates evaporators to increase the solids content of the black liquor burned in the two recovery boilers. Emissions from the evaporators are controlled in the mill's noncondensable gas (NCG) system. The West GB Countercurrent Evaporator (007016) is currently permitted as a six-body, six-effect evaporator.
>
> The West GB Evaporator processes primarily softwood weak black liquor. The West GB Evaporator also processes other liquor-contaminated water from washing the two recovery furnaces and the two evaporator sets, as well as water collected from mill sumps, to reduce color going to the wastewater treatment plant. The current evaporation capacity of the West GB Evaporator limits the amount of liquor-contaminated water that can be processed concurrently with weak black liquor from the pulp mill.

Project Description

Blue Ridge proposes converting the West GB Evaporator into a six-body, five-effect evaporator to increase the evaporation capacity and allow processing of more liquor-contaminated water concurrently with the weak black liquor from the pulp mill. The second evaporator body will be reconfigured to operate in parallel with the first body, making the first effect two bodies.

The proposed reconfiguration will allow the West GB Evaporator to process more gallons per minute of diluted weak black liquor. The West GB Evaporator low-pressure (35 psig) steam usage will increase slightly with the increased throughput. The mill generates surplus low- pressure steam during the summer months from the turbine generators. On-going energy efficiency projects at the mill will more than offset the additional steam required during the cold- weather months when a small amount of medium-pressure (140 psig) steam is reduced to low-pressure to satisfy overall steam demand. Therefore, additional fuel usage at the power boilers is not required to accommodate the change. **The proposed change is not expected to increase the chemical recovery system black liquor solids throughput or lime production through the causticizing equipment*.**

The proposed West GB Evaporator reconfiguration can be accomplished by reconfiguring the blanks and valves within the existing steam lines, vapor ducts and the product flash tank. This reconfiguration will allow live steam to be fed to the second body and send the flash steam from the first body to the third body. A new vapor duct would be installed to direct the flash steam off the product flash tank into the fourth body.

Blue Ridge also plans on making improvements to the NCO System. The liquor heaters for the fifth and sixth evaporator bodies currently vent through a common line into the NCO System. In the future, each liquor heater will have a dedicated line into the NCG System. Additionally, the liquor heater serving each evaporator body will be connected to the NCO System through a second 2-inch valve currently not in use. These improvements will promote removal of excess NCG's during evaporator startup. Evaporator NCGs are routed to the lime kilns for control of HAP and TRS emissions. The lime kilns and their scrubbers provide control of S02 emissions generated from the combustion of TRS. **No measurable emissions increases are expected to occur because of the proposed change*.**

Blue Ridge also plans to improve collection of condensates from the West GB Evaporator. The foul condensate line from the fifth body liquor heater will be routed into the shell of the sixth body liquor heater instead of directly to the foul condensate pump. A larger foul condensate pump will be installed to facilitate removal of foul condensate from both liquor heaters. A new drain will be added at a low point in the NCG System to remove condensate from the NCG vent line. The NCG condensate will be directed to the contaminated condensate pump. Foul condensates are routed to the stripper and stripper off-gases are routed to the lime kilns for control of HAP and TRS emissions. **No measurable emissions increases are expected to occur because of the proposed change*.**

** emphasis was added by this review engineer*

Upon review of this applicability request the engineer determined that not enough information was submitted to determine if a permit modification was required. See Section II above. The facility subsequently revaluated the project and determined that emission changes may occur. In the application submitted on October 6, 2018 the project description was expanded and included the following language (only relevant language was excerpted).

The Blue Ridge Paper Products Canton Mill (Blue Ridge) received your additional information request dated August 16, 2018, regarding the proposed reconfiguration of the West GB Evaporator and has prepared the following responses below. Our responses include not only the requested information but also address changes in the scope of the proposed modification on the Canton Mill since the original applicability determination request. The original applicability determination request and additional information request have been reproduced in Attachment A.

The West GB Evaporator weak black liquor throughput may theoretically increase by as many as 650 'lost' pulp blows annually, which represents approximately 2.5 percent of the West GB Evaporator capacity. When considered together with the Swenson Evaporator throughput (which remains unchanged), the overall pulp production may increase as much as 1.2 percent across the Canton Mill.

The emission source that will be physically modified as described in the current permit (T24) is shown in ***bold italics*** below:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G07016 MACT, Subpart S	*Black Liquor Evaporation System:* Swenson Countercurrent Evaporator, consisting of six effects and one concentrator -147,402 pounds per hour black liquor solids maximum design capacity (No. 07-PU-002) Swenson Evaporator Hotwell - collects condensates from the 4th, 5th, and 6th evaporator effects (No. 07-TK-006) NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system ***West GB Countercurrent Evaporator, consisting of six effects and steam liquor heater - 131,614 pounds per hour black liquor solids maximum design capacity (No. 07-PU-003)*** ***West GB Evaporator Hotwell – collects condensates from the 2nd through 6th evaporator effects (No. 07-TK-007*** ***NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system***	G09028 (primary) or G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system (Control system serves both evaporators)

The emission source will appear in the revised permit as follows (note the only change is the greyed background language):

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
G07016 **MACT, Subpart S**	***Black Liquor Evaporation System:*** Swenson Countercurrent Evaporator, consisting of six effects and one concentrator -147,402 pounds per hour black liquor solids maximum design capacity (No. 07-PU-002) Swenson Evaporator Hotwell - collects condensates from the 4th, 5th, and 6th evaporator effects (No. 07-TK-006) NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system ***West GB Countercurrent Evaporator, consisting of six bodies and five effects and steam liquor heater - 131,614 pounds per hour black liquor solids maximum design capacity (No. 07-PU-003)*** ***West GB Evaporator Hotwell – collects condensates from the 2nd through 6th evaporator effects (No. 07-TK-007*** ***NOTE: Foul condensates to Foul Condensate Stripper System (ID No. G07018) via closed collection system***	G09028 (primary) or G09029 (backup)	No. 4 Lime Kiln via NCG closed collection system No. 5 Lime Kiln via NCG closed collection system (Control system serves both evaporators)

IV. Regulatory Review

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

The West GB Evaporator is subject to a 5 ppm TRS limit under this rule. This limit is met by capturing emissions in the NCG system, which is routed to the lime kilns for control of TRS emissions. This project does not impact compliance with this rule.

40 CFR Part 63. Subpart S

The West GB Evaporator is currently regulated under 40 CFR 63, Subpart S as an existing source under §63.440(b)(I). The proposed changes do not meet the definition of reconstruction under §63.2. The estimated cost of the project is $325,000, which is much less than 50% of the cost of a new evaporator set ($37,500,000) required to meet the definition of reconstruction. This project does not impact compliance with this rule. A full accounting of the costs to evaluate reconstruction are included in the application.

40 CFR 60, Subpart BBa

The West GB Evaporator is currently not regulated under 40 CFR 60, Subpart BB or Subpart BBa.

Reconstruction

The proposed changes do not meet the definition of reconstruction under §60.15. The estimated cost of the project is $325,000, which is much less than 50% of the cost of a new evaporator set required to meet the definition of reconstruction. A full accounting of the costs to evaluate reconstruction are included in the application.

Modification

The applicant supplied the following analysis:

> The definition of modification under §60.14(a} encompasses any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant subject to a standard. However, §60.14(e)(2) excludes an increase in production rate that can be accomplished without a capital expenditure. As defined in §60.2, capital expenditure means an expenditure for a physical or operational change to an existing facility which exceeds the product of the Internal Revenue Service (IRS) "annual asset guideline repair allowance percentage" and the existing facility basis. The IRS annual asset guideline repair allowance percentage for Manufacture of Pulp and Paper is ten (10) percent (IRS Publication 534, 12/84 edition). The basis of the West GB Evaporator is the original 1953 cost of $225,000 which represents equipment only (cost for piping and installation is not available} plus the 1991 Canton Modernization Project cost of $3,899,000. The basis of the West GB Evaporator is over $4,000,000, meaning the proposed changes are less than ten (10) percent of the basis and therefore are not a capital expenditure and not a modification subject to Subpart BBa.

This engineer agrees with the analysis above. It is supported by applicability determinations found in the EPA's Applicability Determination Index (ADI), notably control no. 9900074 for adjustments to original cost basis for capital improvements, and control no. 9700031 for the use of nominal dollars (i.e., the cost at the time the facility was constructed and/or improved) in the calculation of original cost basis.

It is interesting to note that the emissions from the evaporator are routed to the lime kiln via either the NCG closed collection system or the foul condensate system whose emissions are also subsequently captured by the NCG closed collection system. The foul condensate system is subject to Subpart BB and requires at section 2.1 J.1.b

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

Since all the gases originating from the West GB evaporator are commingled with the foul condensate system emissions before ultimately exhausting from the lime kiln, the evaporator emissions are effectively meeting the requirements of Subpart BB at 40 CFR

60.283(a)(1). In addition, the NCG closed collection system is subject to the requirements of MACT Subpart S. The net result is the emissions from the West GB evaporator are already meeting the requirements of NSPS Subpart BBa at 40CFR60.283a(a)(1).

In short, if the West GB evaporator was triggered into NSPS Subpart BBa, no emission reductions would be required.

Other applicable emission regulations

Since the emissions of the evaporator are captured, commingled with the emissions of other sources and treated in the lime kiln(s), typical regulations addressing PM and SO2 are addressed at the lime kiln. This modification will not require any changes to these permit conditions that indirectly address the emissions from the West GB evaporator.

State Enforceable Only

15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

The NCG System toxic air pollutant emissions are calculated using emission factors based on combined hardwood and pine brownstock washer pulp production. The proposed changes to the West GB Evaporator will not increase the maximum hardwood or pine pulp production, nor will the proposed changes increase the chemical recovery black liquor solids throughput or lime production through the causticizing equipment. Therefore, no increases in model emission rates for any toxic air pollutants are expected as a result of the proposed changes.

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

The West GB Evaporator weak black liquor throughput may theoretically increase by as many as 650 'lost' pulp blows annually, which represents approximately 2.5 percent of the West GB Evaporator capacity. When considered together with the Swenson Evaporator throughput (which remains unchanged), the overall pulp production may increase as much as 1.2 percent across the Canton Mill.

The net change in project emissions is calculated using the actual-to-projected-actual applicability test. The actual (baseline) emissions are calculated based on the average production reported in calendar years 2014 and 2015. The projected actual emissions are calculated based on the avoidance of 'lost' blows while the West GB Evaporator is processing liquor contaminated water which displaces weak black liquor from the pulp mill. Only the sources whose utilization is affected by the evaporator modifications are included in the analysis. Table 1 below shows a summary of the analysis. A full accounting of baseline emissions and projected actual emissions on a source by source basis are included as Attachment B to the application.

Table 1
PSD Applicability Summary

	Emissions, tpy											
	CO	Pb	NO_X	PM (f)	PM_{10} (f+c)	$PM_{2.5}$ (f+c)	SO_2	F	H_2SO_4	TRS as H_2S	H_2S	VOC
Baseline Emissions	1,838	0.22	4,313	493	609	516	3,755	27	66	165	68	1,340
Projected Actual Emissions	1,860	0.20	3,228	431	523	446	3,779	18	45	166	69	1,356
Project Emissions Increases	22	-0.02	-1,085	-62	-86	-70	24	-9	-21	1	1	16
NSR Significant Emission Rates	100	0.6	40	25	15	10	40	3	7	10	10	40
Major NSR Review Required	No	No	No	No	No	No	No	No	No	No	No	No

The Permittee supplied the following comments regarding the summary table above.

> As shown in Table 1 below, the change in emissions is less than the Prevention of Significant Deterioration (PSD) Significant Emission Rate (SER) for each regulated pollutant. In many cases the projected actual emissions are lower than the baseline due to the changes in boiler operating configuration and air pollution controls related to compliance with 40 CFR Part 63, Subpart DDDDD (Boiler MACT) and Special Order of Consent 2017-002 (SOC).

> Reductions in emissions are not creditable under the PSD regulations if they are required to maintain compliance with an applicable emission limit or any ambient air quality standard. In this case, changes in boiler operating configuration are not creditable under the PSD regulations for the pollutant SO2. Big Bill and Peter Gare coal-fired boilers are being retired and replaced with two natural gas package boilers to avoid installing air pollution controls to meet the Boiler MACT emission limits for mercury. This boiler replacement also greatly reduces the SO2 emissions and is required by the SOC to comply with the 1-hour SO2 NAAQS, therefore the shutdown of Big Bill and Peter Gare not creditable for the pollutant SO2. This is addressed in the calculations by making the projected actual SO2 emissions equal to the baseline SO2 emissions for Big Bill and Peter G, resulting in an SO2 emission reduction of zero from both boilers.
>
> The wet scrubbers installed on Riley Coal and the No. 4 Power Boiler to comply with Boiler MACT emission limits for mercury also reduce SO2 emissions and are also required by the SOC, therefore the emission reductions are not creditable for the pollutant SO2. This is addressed in the calculations by applying the wet scrubber SO2 control efficiency of 90 percent to the baseline emissions as well as the projected actual emissions.
>
> The Canton Mill is also switching the fuel oil supply for the No. 10 and No. 11 Recovery Furnaces from No. 6 Fuel Oil to Ultra Low Sulfur Diesel (ULSD) to comply with the 1-hour SO2 NAAQS. This reduction in SO2 emissions is not creditable. The reductions in PM and NOx emissions are creditable, as are the slight increases in CO and VOC emissions because more ULSD will need to be burned to provide the same heat input to each Recovery Furnace.
>
> The reductions in emissions of other PSD pollutants from shutting down Big Bill and Peter G are creditable because the emissions reductions are not related to compliance with an applicable emission standard or an air quality standard. Big Bill is compliant with the applicable Boiler MACT PM and CO limits, and Peter G is compliant with the CO emission limit. The baseline PM emissions from Peter G are slightly higher than the applicable PM emission limit, so in the baseline emission calculations the PM emissions from Peter G are reset to the applicable Boiler MACT emission limit as a conservative gesture. In the case of PM and CO emission limits under Boiler MACT, these pollutants are surrogates for metal HAPs and combustion HAPs, respectively.

This review engineer agrees with the approach regarding creditable emissions accounting in the projected actual emissions calculations. Consistent with the March 13, 2018 EPA memo regarding "Project Emissions Accounting Under the New Source Review Preconstruction Permitting Program", project netting was utilized in the analysis summarized in Table 1 above. This engineer agrees with this approach as well.

Regarding the PM calculations, the Permittee maintains that only PM filterable need be included in any estimates of PM for PSD purposes. This appears to be supported by the PSD rule revisions of 2012. However, the preamble of the rule, and the current effective rule itself, appear to allow PM condensable to be considered a "Regulated NSR Pollutant" as defined at 40CFR51.166(b)(49)(iv) which states:

> Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(48) of this section.

Further, 40CFR51.166(b)(48) states:

> 48) Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity….

North Carolina's SIP rules for PM address both filterable and condensable PM. North Carolina also has an ambient air quality standard for TSP which includes both filterable and condensable PM. Thus, it is currently unclear if PM condensable should be included in the accounting of PM emissions. At the time of this permitting action, the SIP rules that address PM are under review.

Since it is extremely unlikely the inclusion or exclusion of PM condensable from the recordkeeping requirements for PM will influence the decision of triggering a PSD review, it was decided that in this permitting action, which is not subject to TV permitting procedures nor compliance certification requirements (and also not covered under a permit shield), to move forward with a recordkeeping condition that only requires PM filterable. It is expected that this issue will be sorted out prior to subjecting the modification to the public notice and EPA review procedures during the second step of the 02Q .0504 permitting process.

A 02D .0530(u) condition will be placed into the permit requiring the permittee to track emissions from the sources affected by this modification upon commencing operation following the proposed modifications to the West GB evaporator. This recordkeeping requirement will be required for ten years since the project may increase the evaporation capacity of the evaporator.

A table of projected actual emissions will also be included for monitoring purposes. These are not enforceable emission limitations. If the projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the permittee shall include in its annual report an explanation as to why the actual rates exceeded the projection. As seen in Table 1 above, all projections are well below PSD significance thresholds, in many cases reflecting a reduction in emissions. To simply the need for additional explanation with the annual reporting, the table of projected actual emissions will be each pollutant's baseline actual emissions plus the appropriate PSD significant emissions rate.

V. NSPS, NESHAPS, PSD, Toxics, Attainment Status, 112(r), and CAM

NSPS
NSPS applicability is discussed in Section IV.

NESHAP/MACT
The facility is a major source of HAP. MACT applicability is discussed in Section IV.

PSD
Haywood County is in attainment for all pollutants. The facility is a PSD major source. The facility is subject to BACT limits, monitoring, recordkeeping and reporting requirements at Section 2.2.A 1 and numerous PSD avoidance requirements either through 02Q .0317 or 02D .0530(u) in Section 2.2. This modification will result in an additional 02D .0530(u) condition. See discussion in Section IV.

CAM
This modification has no implications with respect to CAM.

112r
The Permittee is regulated explicitly under 112(r) for the chlorine dioxide generating system (ID No. G06014) at Section 2.1 F.1 in the permit.

Toxics
See discussion in Section IV.

VI. Compliance History

DAQ has reviewed the compliance status of this facility. Due to the size and complexity of the paper mill, the inspections at Blue Ridge Paper are conducted in phases. The most recent inspection was conducted September 21, 2018. Brendan Davey of the Asheville Regional Office indicated that, at the time of the inspection, Blue Ridge Paper appeared to be in compliance with the requirements of the current permit for the sources that were the subject of the current inspection.

The following table shows the recent five-year compliance history.

Five Year Violation History:

Date	Letter Type	Rule Violated	Violation Resolution Date
10/09/2018	NOV/NRE	Permit Permit Condition	Pending
03/14/2017	NOV/NRE	Permit Late Report (excluding ACC)	Pending
03/14/2017	NOV/NRE	2D .0400 Ambient Air Quality Standards	Pending
03/14/2017	NOV/NRE	Permit Permit Condition	04/07/2017
03/14/2017	NOV/NRE	Permit Permit Condition	Pending
12/09/2016	NOV/NRE	2Q .0508 Permit Content	12/09/2016

VII. Changes Implemented in Revised Permit

Old Section No.	New Section No.	Description of Change(s)
Cover letter	Cover letter	• Updated permit revision numbers and dates.
Permit page 3	same	• Updated permit revision number, and permit issuance date.
Section 1 and Section 2.1 G.	same	• Revised equipment descriptor for West GB evaporator • Added 02Q .0504 footnote for the current project
NA	Section 2.2 A.5	• Added 02D .0530(u) condition for the current project
NA	Section 2.2 B.4	• Added 02Q .0504 condition for the current project
Section 3	same	• Updated to Version 5.3, dated 08/21/2018. • Corrected definition of AOS in the List of Acronyms to Alternative Operating Scenario

VIII. Public Notice/EPA and Affected State(s) Review

NA

IX. Recommendations

It is recommended that permit no. 08961T25 be issued as drafted.

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: January 10, 2020

Region: Asheville Regional Office
County: Haywood
NC Facility ID: 4400159
Inspector's Name: Brendan Davey
Date of Last Inspection: 11/01/2019
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): Blue Ridge Paper Products LLC

Facility Address:
Blue Ridge Paper Products LLC
175 Main Street
Canton, NC 28716

SIC: 2621 / Paper Mills Exc Building Paper
NAICS: 322121 / Paper (except Newsprint) Mills

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

No new regulations were added with this permit modification.

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716	Wallace McDonald General Manager (828) 646-2840 175 Main Street Canton, NC 28716	Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716

Application Data

Application Number: 4400159.19A
Date Received: 08/12/2019
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 08961/T26
Existing Permit Issue Date: 09/12/2019
Existing Permit Expiration Date: 10/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	4494.78	3006.74	1637.84	1632.69	499.04	840.00	616.31 [Methanol (methyl alcohol)]
2017	5875.43	3418.59	1420.30	1830.70	558.09	823.95	624.44 [Methanol (methyl alcohol)]
2016	7195.93	4224.22	1377.79	1500.32	675.70	861.11	606.17 [Methanol (methyl alcohol)]
2015	7810.81	4325.84	1400.35	1549.11	711.16	798.89	599.37 [Methanol (methyl alcohol)]
2014	7593.86	4344.54	1481.26	2922.19	728.55	818.32	610.26 [Methanol (methyl alcohol)]

Review Engineer: Heather Sands

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 08961/T27
Permit Issue Date: January 10, 2020
Permit Expiration Date: October 31, 2021

I. Purpose of Application

Evergreen Packaging operates Blue Ridge Paper Products, Inc. (Blue Ridge Paper), an integrated kraft pulp and paper mill located in Canton, Haywood County, North Carolina. Blue Ridge Paper currently holds Title V Permit No. 08961T26 with an expiration date of October 31, 2021. This permit application is for a permit modification under 15A NCAC 02Q .0501(b)(2), as the first step of a two-step significant modification. The permit application (No. 4400159.19A) was received on August 12, 2019 and was deemed administratively complete on August 26, 2019 following the submittal of the required permit fee. Permit Application No. 4400159.19A was submitted to request a permit modification to address a proposed project to hard pipe the collected black liquor oxidation (BLOX) condensates to the wastewater treatment plant (WTP) Aeration and Digestion Basins as an alternative to the current configuration where it is being mixed with the other foul condensates in the stripper feed tank for treatment using the steam stripper.

II. Project Description

Currently, Blue Ridge Paper is operating the BLOX system under Equivalency By Permit (EBP) condition in their current permit under which they operate a regenerative thermal oxidizer (RTO) on the BLOX system as an alternative compliance option for controlling the hazardous air pollutant (HAP) emissions from the pulp washing and oxygen delignification systems (see section VI, below for a detailed description of this EBP condition).

The BLOX vent gas collection system is currently equipped with a condenser to remove moisture from the gases prior to combustion in the RTO. The condenser effluent is collected and combined with other foul condensates in the stripper feed tank for treatment in the steam stripper. However, due to steam stripper capacity limitations, excess foul condensates are diverted into the mill sewer system.

With Permit Application No. 4400159.19A, Blue Ridge Paper is proposing to modify the configuration of their condensate treatment with the BLOX-RTO Condensate Reconfiguration Project (BLOX Project). As stated above, under the existing configuration, Blue Ridge Paper collects the BLOX foul condensate with the other foul condensates in the stripper feed tank for treatment using the steam stripper. Blue Ridge Paper is proposing to hard pipe the collected BLOX condensate to the biological treatment unit, which would reduce the amount of excess foul condensate being diverted to the mill sewer system while still collecting and treating BLOX condensate in the biological treatment system. As they stated in their permit application, Blue Ridge Paper and the Division of Air Quality (DAQ) Asheville Regional Office (ARO) believe that this modification will reduce odors from the facility and reduce community complaints.

According to the flow diagram included in the application, the BLOX vent gas collection system is currently equipped with a condenser to remove moisture from the gases prior to combustion in the RTO. The condenser effluent is collected and combined with other foul condensates in the stripper feed tank for treatment in the steam stripper. However, due to steam stripper capacity limitations, under normal operations, excess foul condensates are diverted into the mill sewer system. Although the hardpiping already exists for diverting foul condensates to the biological treatment, also referred to as the aerated stabilization basin (ASB), it causes operational difficulties and is therefore not used during normal operation.

Blue Ridge Paper estimates that this change in the configuration of the condensate system will not only reduce odors from the facility, but also will reduce methanol emissions by approximately 24.9 tons per year due to the expected reduction in the volume of foul condensates being diverted to the sewer. As stated in their application, this methanol reduction was calculated using the National Council for Air and Stream Improvement (NCASI) Organic Compound Elimination Pathway Model (NOCEPM). The NOCEPM model predicts the fate of specific organic compounds during wastewater treatment.[1] The NOCEPM model results included in the permit indicate that the overall methanol removal due to biodegradation in the biological treatment system is greater than 95 percent, which is greater than the 92 percent methanol removal in the steam stripper.

[1] Description of NOCEPM version 2.1.
https://www.ncasi.org/resource/ncasi-organic-compound-elimination-pathway-model-nocepm-2-1/

Based on the results of the NOCEPM model, Blue Ridge Paper provided the estimated emissions impact of the BLOX Project. These emissions are summarized in Table 1, below. As shown in Table 1, the BLOX Project will result in a decrease in methanol emissions.

Table 1. Impact of BLOX-RTO Reconfiguration Project on Methanol Emissions

	Methanol Emissions				
Configuration	Overall Biodegradation (%)	Primary Clarifier (lb/day)	Aerated Stabilization Basin (lb/day)	Overall (lb/day)	Overall (tpy)
Hardpipe – Foul to sewer	95.4	496	41	537	98.0
Hardpipe – BLOX to ASB	95.5	369	32	401	73.1
Change in emissions	+0.1	-127	-9	-136	-24.9

The Wastewater Treatment Plant is also a source of acetaldehyde, catechol, chloromethane, p-cresol, formaldehyde, and phenol emissions. The NOCEPM model output included in Permit Application 4400159.19A included the impact of emissions of these sources, which are presented in Table 2, below. As shown in Table 2, Blue Ridge Paper assumed that the inlet loading of the HAP and toxic air pollutants (TAPs) would not change due to this project. It should be noted that hydrogen sulfide (H_2S) and methyl mercaptan (MMC) are not included in this table. See Section VII, below for more details.

Table 2. Impact of BLOX-RTO Reconfiguration on HAP and TAP Emissions

		Fugitive Emissions (lb/yr)	
Pollutant	HAP/TAP	Hardpipe - Foul to sewer	Hardpipe – BLOX to ASB
Acetaldehyde	HAP and TAP	9,572	9,572
Catechol	HAP only	<1	<1
Chloromethane	HAP only	4	4
p-Cresol	HAP and TAP	17	17
Formaldehyde	HAP and TAP	148	148
Phenol	HAP and TAP	28	28
Total VOC		9,770	9,770

III. Application History

May 31, 2019 Blue Ridge Paper submitted applicability determination (No. 3431) requesting that DAQ determine whether a proposed BLOX Project would impact the equivalency by permit (EBP) established under federal regulations.

June 28, 2019 DAQ sent a letter to Blue Ridge Paper stating that they concurred that the proposed BLOX Project would not impact the EBP.

August 12, 2019 DAQ received Permit Application No. 4400159.19A for the BLOX Project.

December 18, 2019 DAQ sent a draft of Permit No. 08961T27 and the draft air permit review to Blue Ridge Paper and Asheville Regional Office (ARO) for review.

January 7, 2020 DAQ received comments via telephone from Blue Ridge Paper. See Section X, below, for a summary of comments received.

January 9, 2020 DAQ received comments from ARO. See Section X, below, for a summary of comments received.

January 10, 2020 Permit issued.

IV. Permit Modifications

A summary of changes to the permit is presented in Table 3, below. Changes to equipment were incorporated into the Title V Equipment Editor.

Table 3. Summary of Changes to Permit No. 08961T27

Pages	Section	Description of Changes
Cover letter	Cover letter	• Updated permit revision numbers and dates. Changed application type.
1	Permit Cover Page	• Updated permit revision number, and permit issuance date.
2-148	All	• Updated permit revision number in header • Minor format revisions to align with permit shell.
3 - 11	Section 1	• Revised the emission source description for the foul condensation system (G07018) to modify the emission source ID No. of the black liquor oxidation system from G08022 to G08022b and to indicate that the foul condensates come from the gas collection system. • Revised the emission source ID No. from G08022 to G08022a. Revised the emission source description to clarify that the source represents the collection of vent gases from the Black Liquor Oxidation System. • Added a new source G08022b, Black Liquor Oxidation System: Condensates from the black liquor oxidation gas collection system, and associated controls, which includes the option to hard pipe the condensates to and discharged below the liquid surface of the waste treatment aeration and digestion basins.
30 – 31	Section 2.1 M	• Updated condition header with revised ID No. for the black liquor oxidation gas collection system and revised header to match Section 1 equipment table. • Throughout condition changed ID No. G08022 to ID No. G08022a.
	Section 2.2 B	• Added condition B.5 for the requirement to submit the second step of this two-step significant modification within one year of the date the black liquor oxidation system condensates are hard-piped to the WTP and aeration and digestion basin.
97 – 106	Section 2.2 C.1	• Changed condition C.1.e.vi to reflect correct emission source description for ID No. G08022b. • Revised condition C.1.m.ii to add hard piping the black liquor oxidation condensates to the waste treatment plant aeration and digestion basin as an option for routing the condensates to the steam stripper feed tank.
106 – 109	Section 2.2 C.2	• Throughout the condition changed ID No. G08022 to ID No. G08022a for the black liquor oxidation system gas collection system.
134	Section 2.2 I.1	• Throughout the condition changed ID No. G08022 to ID No. G08022a for the black liquor oxidation system gas collection system.
135 – 138	Section 2.2 J.1	• Throughout the condition changed ID No. G08022 to ID No. G08022a for the black liquor oxidation system gas collection system.

V. Regulatory Review – State Rules

The BLOX system is subject to the following State standards:

- 15A NCAC 02Q .0317 – Avoidance Conditions for 15A NCAC 02D .0530 – Prevention of Significant Deterioration: The condition that addresses this regulation in the current permit (T26) limits emissions of sulfur dioxide (SO_2) and sulfuric acid mist. The proposed BLOX Project will not impact this condition and no further discussion is necessary.
- 15A NCAC 02D .0501 – Compliance with National Ambient Air Quality Standards: Under this regulation, the BLOX system is limited to SO_2 emissions from the RTO of no more than 2.5 pounds per hour (lb/hr). The

proposed BLOX Project does have an impact on SO_2 emissions from the RTO. No further discussion on this condition is necessary.

- 15A NCAC 02D .0530 – Prevention of Significant Deterioration: The BLOX Project is potentially subject to this regulation and will be addressed in Section VI, below.
- 15A NCAC 02D .0543 – Best Available Retrofit Control Technology: The BLOX system was evaluated and DAQ determined that Best Available Retrofit Technology (BART) was no additional control. No further discussion on this condition is necessary.
- 15A NCAC 02D .1100 – Control of Toxic Air Pollutants: Although Blue Ridge Paper is subject to air toxics modeling under this regulation, no changes to the Toxics limits are necessary. See Section VII, below for additional information.
- 15A NCAC 02D .1111 – Maximum Achievable Control Technology: The BLOX condensate system is subject to the national emission standards for hazardous air pollutants (NESHAP) from the Pulp and Paper Industry issued under 40 CFR Part 63, Subpart S (Subpart S). Details regarding how the BLOX Project impacts this regulation will be addressed in Section VI, below. Additionally, the BLOX system RTO is part of the EBP for high volume low concentration (HVLC) sources subject to the NESHAP from the Pulp and Paper Industry issued under 40 CFR Part 63, Subpart S (Subpart S). This regulation will be addressed in Section VI, below.

VI. Regulatory Review - Federal Rules (NSPS, NESHAP/MACT, NSR/PSD)

A. New Source Performance Standards

The new source performance standards (NSPS) for kraft pulp mills under 40 CFR Part 60, Subpart BB and Subpart BBa do not regulate the BLOX system and are not applicable.

B. Prevention of Significant Deterioration

The BLOX Project results in a decrease in VOC emissions of at least 24.9 tons per year (as methanol) as shown in Table 1. Therefore, the prevention of significant deterioration (PSD) regulations do not apply.

C. NESHAP

Blue Ridge Paper is subject to the requirements of the NESHAP for the Pulp and Paper Industry under Subpart S. North Carolina has authority under 40 CFR 63.94 to approve EBP provisions for Subpart S. Under the EBP, Blue Ridge Paper vents the gases from the BLOX system to a closed vent system for combustion in a new RTO to control methanol emissions and other HAPs in lieu of installing a new RTO to control emissions from the pulp washing and oxygen delignification systems.

According to the original permit application for the EBP, Blue Ridge Paper stated that whether they controlled the BLOX system or the pulp washing and oxygen delignification system vents in a new RTO, the vent gas collection system would be equipped with a condenser to remove moisture from the gases prior to combustion. These sources were therefore not included as part of the EBP. For the EBP approval, Blue Ridge Paper did not quantify the collection and treatment of condensates in the EBP-to-Subpart S comparison and the EPA-approved EBP permit condition did not include any language requiring the collection of the condensates. The approved EBP only addressed vent gas emissions from pulp washing and oxygen delignification as compared to collecting and routing the BLOX vent gases to a new RTO. Therefore, DAQ has provided their agreement that no changes to the vent-gas emissions EBP condition are necessary.[2]

Although the BLOX condensate stream is not identified specifically as an affected source under Subpart S, it is listed in the current permit (T26) as one of the sources that would be collected and treated with the specified Subpart S pulping condensate sources. Specifically, Section 2.2 C.1.m.ii of the permit states that Blue Ridge Paper shall collect and send the BLOX condensates to the stripper feed tank. As stated in their permit application (4400159.19A), Blue Ridge Paper estimates a 95.5 percent overall biodegradation in the ASB, which is higher than the required 92 percent reduction via the steam stripper. As shown in Table 1, above, the BLOX Project will result

[2] Letter from Sands, Heather P., NCDEQ/DAQ/Permitting, to Wallace McDonald, General Manager, Blue Ridge Paper Products. Permit Applicability Determination No. 3431. June 28, 2019.

in an overall methanol reduction of 24.9 tpy. DAQ has reviewed this calculation of methanol reduction based on the information provided in the permit application and agrees with the methodology. Therefore, Section 2.2 C.1.m.ii of the permit will be modified to add the hard-piping of the BLOX-RTO condensate to the wastewater treatment plant aeration and digestion basins and shall be discharged below the surface. No additional changes to the Subpart S requirement are necessary and compliance is expected.

VII. Facility Wide Air Toxics

Blue Ridge Paper is subject to toxics regulations under 15A NCAC 02D .1100 and 02Q .0700. In the current permit, the wastewater treatment plant (WTP Aeration and Digestion Basins) have limits for acetaldehyde, ammonia, cresol, formaldehyde, methyl ethyl ketone, and phenol.[3] As shown in Table 2, above, the sources involved in the BLOX Project emit the following toxic air pollutants (TAP): acetaldehyde, cresol, formaldehyde and phenol. Blue Ridge Paper estimates that there will be no change in emissions of these pollutants due to the BLOX Project and therefore no changes to the toxics limits are necessary and no additional modeling is required. Methanol is not a toxic air pollutant.

VIII. Facility Emissions Review

The table on the first page of this permit review presents the criteria pollutant (plus total HAP) from the latest available approved facility emissions inventory (2018). The HAP emitted in the largest quantity from the facility is methanol. The BLOX Project is expected to reduce methanol emissions by approximately 24.9 tpy and thereby HAP and VOC emissions by the same amount.

IX. Facility Compliance Status

DAQ has reviewed the compliance status of this facility with respect to its Title V Air Permit. Due to its size and complexity, the Blue Ridge Paper mill is inspected in phases. The most recent inspection of the facility was conducted on November 1, 2019, by Mr. Brendan Davey with the Asheville Regional Office (ARO). According to the inspection report, the following is a five-year compliance history.

- On December 09, 2016, Blue Ridge Paper was issued an NOV/NRE for violation of 15A NCAC 02Q .0508 – Permit Content. This violation was resolved on December 9, 2016.
- On March 14, 2017, Blue Ridge Paper was issued an NOV/NRE for a late Permit Report (excluding annual compliance certification). This violation was resolved on March 17, 2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV for failing to conduct required daily visual inspection of the flyash handling bagfilter systems. This violation was resolved on 04/17/2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV for exceeding toxic air pollutant permit limits and failure to submit a timely annual report. This violation was resolved on 04/07/2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV/NRE for violation of 15A NCAC 02D .0400 – Ambient Air Quality Standards. Resolution was addressed via a special order of compliance (SOC) No. 2017-002 and expired on December 31, 2019.
- On October 9, 2018, Blue Ridge Paper was issued a NOV/NRE for failure to conduct the required annual internal inspection of a cartridge bagfilter under 15A NCAC 02D .0515 – Particulates from Miscellaneous Industrial Processes. This violation was resolved on 10/24/2018.
- On October 9, 2018, Blue Ridge Paper was issued an NOV/NRE for violation of General Condition F of Air Permit No. 08961T24. This violation was resolved on 10/24/2018.
- On October 22, 2019, Blue Ridge Paper was issued an NOV for failure to conduct complete boiler MACT tuneups the Riley Bark, Riley Coal, and No 4. Power Boilers. This violation was resolved on November 22, 2019.

[3] Hydrogen sulfide and MMC emissions from pulp and paper mill wastewater treatment are exempt from permitting per 15A NCAC 02Q .0702.

X. Draft Permit Review Summary

The Permittee was sent a draft of the permit and permit review on December 18, 2019. Comments from the Permittee were received on January 7, 2020. The comments received were primarily editorial in nature and were incorporated into the final permit.

Copies of the draft permit and permit review were sent to the ARO on December 18, 2019. Comments from the ARO were received on January 9, 2020. The comments were primarily editorial in nature and were incorporated into the final permit.

XI. Public Notice/EPA and Affected State(s) Review

Public notice not required at this time. This permit action is for the first step of a two-step process as per 15A NCAC 2Q .0501(c)(2).

XII. Conclusions, Comments and Recommendations

PE Seal

Pursuant to 15A NCAC 02Q .0112 "Application requiring a Professional Engineering Seal," a professional engineer's seal (PE Seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in Rule .0103 of this Section that involve:

(1) design;
(2) determination of applicability and appropriateness; or
(3) determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer's seal (PE Seal) **WAS NOT** required for this modification.

Zoning

A Zoning Consistency Determination per 2Q .0304(b) **WAS NOT** required for this proposed modification.

Recommendations

This permit modification application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Recommend Issuance of Permit No 08961T27. ARO has received a copy of this permit and submitted comments that were incorporated as described in Section X.

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: June 2, 2020

Region: Asheville Regional Office
County: Haywood
NC Facility ID: 4400159
Inspector's Name: Christopher Scott
Date of Last Inspection: 12/13/2019
Compliance Code: W / Violation - procedures

Facility Data

Applicant (Facility's Name): Blue Ridge Paper Products LLC

Facility Address:
Blue Ridge Paper Products LLC
175 Main Street
Canton, NC 28716

SIC: 2621 / Paper Mills Exc Building Paper
NAICS: 322121 / Paper (except Newsprint) Mills

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

No new regulations were added with this permit modification.

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716	Wallace McDonald General Manager (828) 646-2840 175 Main Street Canton, NC 28716	Dan Meyer Environmental Manager (828) 646-2945 175 Main Street Canton, NC 28716

Application Data

Application Number: 4400159.20B
Date Received: 02/26/2020
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 08961/T28
Existing Permit Issue Date: 05/22/2020
Existing Permit Expiration Date: 10/31/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	4494.78	3006.74	1637.84	1632.69	499.04	840.00	616.31 [Methanol (methyl alcohol)]
2017	5875.43	3418.59	1420.30	1830.70	558.09	823.95	624.44 [Methanol (methyl alcohol)]
2016	7195.93	4224.22	1377.79	1500.32	675.70	861.11	606.17 [Methanol (methyl alcohol)]
2015	7810.81	4325.84	1400.35	1549.11	711.16	798.89	599.37 [Methanol (methyl alcohol)]
2014	7593.86	4344.54	1481.26	2922.19	728.55	818.32	610.26 [Methanol (methyl alcohol)]

Review Engineer: Heather Sands

Review Engineer's Signature: **Date:**

Heather Sands June 2, 2020

Comments / Recommendations:
Issue 08961/T29
Permit Issue Date: June 2, 2020
Permit Expiration Date: October 31, 2021

I. Purpose of Application

Evergreen Packaging operates Blue Ridge Paper Products, Inc. (Blue Ridge Paper), an integrated kraft pulp and paper mill located in Canton, Haywood County, North Carolina. Blue Ridge Paper currently holds Title V Permit No. 08961T28 with an expiration date of October 31, 2021. This permit application is for a permit modification under 15A NCAC 02Q .0501(b)(2), as the first step of a two-step significant modification. The permit application (No. 4400159.20B) was received on February 26, 2020, and was deemed administratively complete on February 26, 2020. Permit Application No. 4400159.20B was submitted to request a permit modification for a proposed project to optimize the recausticizing area at the Canton Mill to reduce the amount of lime mud being landfilled and to improve efficiency.

On May 1, 2020, Blue Ridge Paper submitted an addendum to the original permit application. The addendum incorporated upgrades to the No. 4 Lime Kiln Scrubber, which were addressed in the DAQ response to Applicability Determination No. 3514, and incorporated other updates to the project scope.

II. Project Description

The Blue Ridge Paper facility is a bleached kraft pulp mill producing bleached kraft softwood and hardwood pulp, paper and paperboard. The kraft cooking process uses a cooking liquor, referred to as white liquor, to separate lignin and wood fiber to produce pulp from wood chips. The wood chips and the white liquor are combined and cooked in 18 batch digesters at the Canton mill. Pulp from the digesters is refined by removing uncooked materials (e.g., knots), washed, and bleached.

The spent cooking liquor, referred to as black liquor, is collected from the pulping and washing processes and is concentrated in the evaporators. Concentrated black liquor (heavy black liquor) is burned in recovery furnaces that produce steam for energy generation and heat for the pulp and paper making process. Molten inorganic ash (smelt) from the recovery furnaces is dissolved in recycled mill water (weak wash) to make green liquor in the smelt dissolving tanks. The green liquor is allowed to settle to remove unmixed inorganics and is then reprocessed into reusable chemicals. The causticizing process combines lime with the green liquor in a lime slaker reactor and produces white liquor. A by-product of slaking is lime mud (calcium carbonate), which is washed and then reburned in two rotary kilns to produce reburned lime product (calcium oxide, CaO). Fresh lime is frequently purchased to use in the causticizing process to supplement the reburned lime. The total amount of calcium oxide in the system is equal to the amount of purchased lime plus the amount of lime produced in the lime kilns minus the lime that is sent to the landfill.

Blue Ridge Paper is proposing a project to optimize the recausticizing area to reduce the amount of purchased lime and also reduce the amount of lime mud being disposed of in the mill's landfill. According to their permit application, the project will: improve the quality of the white liquor sent to the digesters; reduce the "dead load" in the liquor cycle; and improve the energy efficiency of the mill, resulting in a reduced steam demand and reduced fuel usage per ton of lime processed through the lime kilns. The project should not change the amount of lime needed in the system to produce white liquor.

The project includes improving white liquor quality by installing two new pieces of equipment: a White Liquor Pressure Disc Filter and a Causticizer. Existing Green Liquor Clarifiers, Dregs Filter, and Lime Mud Filters will be upgraded. A summary of the proposed new equipment and modifications to existing sources is presented in the Table 1, below.

In addition, Blue Ridge Paper is proposing that the wet scrubbers installed on the Nos. 4 and 5 Lime Kiln be upgraded to improve compliance with particulate matter (PM) emission limits. The Nos. 4 and 5 Lime Kilns are not being modified as part of this project. The No. 4 Lime Kiln Scrubber upgrades include: introducing clean make-up water to the venturi approach, adding a new spray nozzle and header, installing a plate to increase the pressure drop, and/or modifying the venturi approach to a "dentist bowl" style similar to the, including the installation or upgrading of piping, pumps and conveyors associated with this project. The potential upgrades for the No. 5 Lime Kiln Scrubber had not been engineered at the time of the permit application. Blue Ridge Paper

Table 1. Summary of Proposed New Equipment and Modifications to Existing Recausticizing Equipment

Emission Source ID No.	Emission unit	Description of Modification
G10089.10-TK-005 and 10-TK-006	Green Liquor Clarifiers	• New feedwells to promote the separation of dregs from the green liquor. • Allows for greater removal of impurities in green liquor sent to the slakers.
G10089.10-TK-003	West Green Liquor Storage Tank	
G09027-3	Dregs Filter	• Conveying systems for the filter products • A renewal shower for improved dewatering capacity • A moveable doctor blade • No. 6 Lime Mud Pre-Coat Filter will be modified to allow use as a dregs filter if necessary to maintain green liquor quality
G09027.09-PU-001, 09-PU-002, 09-PU-004	Lime Mud Pre-Coat Filters	
I-G10036-TK-026	New Causticizer	• Addition of a new causticizer to supplement the four existing causticizers • Increased residence time and more complete precipitation of lime mud from white liquor
I-G10036.10a	New White Liquor Pressure Disc Filter	• New source to supplement the three existing white liquor clarifiers • Reduce the amount of white liquor carry-over in the lime mud prior to the kilns • Lowers the amount of sodium in the lime mud and improves operation and energy efficiency in the kilns

stated that they expect the upgrades to the scrubber on the No. 4 Lime Kiln will reduce PM emissions by 15 percent from the current scrubber performance. The predicted scrubber removal efficiency will be approximately 99.5 percent after the project. An improvement in performance of the No. 5 Lime Kiln scrubber was not predicted. Based on recent test data, Blue Ridge Paper estimates that the scrubber currently achieves a 99.7-percent emission reduction.[4]

Finally, Blue Ridge Paper is proposing changes to the Nos. 10 and 11 Recovery Furnaces. The Blue Ridge Paper recovery furnaces are designed with direct contact evaporators (DCE). In a DCE recovery furnace, the flue gas is passed through the black liquor just prior to entering the electro-static precipitator (ESP) to recover waste heat and evaporate additional water to increase the solids concentration of the black liquor just prior to firing in the recovery furnace. At Blue Ridge Paper, these DCEs are cyclone evaporators. In a cyclone evaporator the black liquor is sprayed into the cyclone through two ring headers and drains into the bottom of the cyclone after contact with the flue gas. After being concentrated to the correct solids content, the black liquor is fed through the salt cake mix tank to the liquor firing guns inside the furnace.[5] Blue Ridge Paper is proposing that the cyclone ring header piping on the Nos. 10 and 11 Recovery Furnaces be modified by changing the location where the black liquor enters the headers on each DCE. The location of the ring headers is not changing and this change will help to maintain cleanliness in the cyclone and to prevent premature plugging of the equipment.

The new and modified equipment under this proposed project are primarily sources of volatile organic compounds (VOC). Emissions estimates for these sources are based on emission factors from National Council for Air and Stream Improvement (NCASI).[6] The emission factors are in terms of pounds of emissions from the unit type (e.g., causticizer) per ton of lime burned in the kilns (lb/T CaO) and apply to the processing step (e.g, green liquor storage or green liquor clarification) not the individual emissions unit (e.g., each storage tank or clarifier). Therefore, the addition of new sources or modifications of existing sources in the recausticizing area does not impact the total emissions from these sources.

[4] It should be noted that the emission reductions associated with the scrubbers are calculated using AP-42 emission factors for lime kilns in terms of pounds per air dried tons of pulp (lb/ADTP) to represent the PM emissions at the scrubber inlet and test data to represent PM emissions at the scrubber outlet. As will be discussed later, the PM standards applicable to the lime kiln are based on emissions measured at the scrubber outlet and are not based on scrubber performance.
[5] Email from Moore, Steven, Sr. Project Manager, All4 Inc., to H. Sands, Environmental Engineer, NC Dept. of Environmental Quality/Division of Air Quality. RE: Recausticizing Permit Application Calculations. May 11, 2020.
[6] NCASI Technical Bulletin No. 1050: Compilation of Air Toxics Emissions Data for Pulp and Paper Sources – Publication Accompanying the 2018 Air Toxics Emissions Database. September 28, 2018.

III. Application History

February 26, 2020	DAQ received Permit Application No. 4400159.20B from Blue Ridge Paper for a proposed optimization project in the recausticizing area.
March 27, 2020	DAQ requested an electronic copy of Permit Application No. 4400159.20B and the spreadsheet used to calculate project emissions.
April 15, 2020	DAQ participated in a meeting via conference call with staff from ALL4 Inc., consultants for the Canton mill, to discuss the permit application. During the call, DAQ requested the proposed modifications to the scrubber installed on the No. 4 Lime Kiln be incorporated into the permit application. Mr. Steven Moore, with ALL4, submitted the spreadsheet used to calculate project emissions. (NOTE: This version of the spreadsheet did not include the No. 4 Lime Kiln Scrubber.)
May 1, 2020	DAQ received an addendum, via email, to Permit Application No. 4400159.20B from Blue Ridge Paper. The addendum included the No. 4 Lime Kiln Scrubber project and other updates to the scope of the Recausticizing Optimization Project.
May 5, 2020	DAQ requested a copy of the revised spreadsheet used to calculate emissions associated with the amended permit application. DAQ received the spreadsheet from Mr. Moore.
May 27, 2020	Draft permit sent to applicant and Asheville Regional Office (ARO) for review.
May 29, 2020	Comments received from ARO. See Section X, below.
May 29, 2020	Comments received from applicant. See Section X, below.
June 2, 2020	Permit Issued

IV. Permit Modifications

A summary of changes to the permit is presented in Table 2, below. Changes to equipment were incorporated into the Title V Equipment Editor.

Table 2. Summary of Changes to Permit No. 08961T28

Page No.	Section	Description of Change(s)
Cover Letter	Cover Letter	Updated permit revision and dates.
Cover Letter Attachment	Insignificant Activities List and Summary of changes to permit	• Added two insignificant activities: Causticizer (North) (ID No. I-G10036.10-TK-026) and White Liquor Pressure Disc Filter (ID No. I-G10036.10a) • Updated Summary of changes to permit for current permit modifications.
Permit cover page	Permit cover page	Updated permit revision number and permit issuance date
1 – 153	All	• Updated permit revision number in header • Updated permit language to match permit shell • Corrected typographical errors

Table 2. Summary of Changes to Permit No. 08961T28

Page No.	Section	Description of Change(s)
3 – 11	1	• Updated footnotes to table and added specific equipment to the footnote so that they are easier to read • Moved Dregs Filter to the Lime Production Area (Area 09) • Added lime pre-coat filter vacuum pumps to the equipment description for Lime Production – Other Units • Added footnotes indicating that the recausticizing area sources and the lime kilns are modified under 15A NCAC 02D .0501(b)(2) as the first step of a two-step significant modification as proposed in Permit Application No. 4400159.20B • Removed footnote from Nos. 1 and 2 Package Boilers – requirement for second step of two-step modification was satisfied with issuance of Permit No. 08961T28 • Added a footnote for the Black Liquor Oxidation System Condensate Collection Tank. This footnote was inadvertently left off the table when Permit No. 08961T27 was issued.
35 – 40	2.1 O	• Added a requirement to condition O.1.b to conduct a performance test within 180 days of normal operation after upgrades to lime kiln scrubbers as proposed in Permit Application No. 4400159.20B • Added language to condition O.1.e to specify that the No. 4 Lime Kiln Scrubber should be operated as previously permitted prior to the upgrades and that after upgrading the scrubber, the manufacturer-suggested operating parameters be used prior to the performance test and site-specific operating parameters be confirmed or reestablished during the initial performance test. • Added a language to condition O.2.c requiring that "normal" visible emissions should be established within the first 30 days of the resumption of normal operations following the upgrades to the lime kiln scrubbers. • Added a footnote to the table in condition O.5.d requiring that new minimum indicator ranges be established following the initial performance tests.
44	2.1 R	• Corrected No. 6 Lime Pre-Coat Filter ID No. (should be 09-PU-004, not 003) • Added the Nos. 4, 5, and 6 Lime Pre-coat Filter Vacuum Pumps and Dregs Filter to condition header
45 – 46	2.1 S	• Added specific Green Liquor Clarification and Storage emission unit descriptions to condition header • Added unit ID to Green Liquor Stabilization in condition header
94 – 96	2.2 A	• Added recordkeeping and reporting condition A.6 for the use of projected actual emissions to avoid PSD applicability.
98	2.2 B	• Added condition B.6 requiring a permit application to be submitted within one year from the date the No. 4 or No. 5 Lime Kiln Scrubbers resume normal operation or the completion of upgrades to the recausticizing sources as proposed in Application No. 4400159.20B, whichever is earlier.
112 – 117	2.2 D	• Specified in condition D.1.d.i that performance tests previously conducted on the No. 4 Lime Kiln scrubber cannot be used to satisfy the October 13, 2020, testing requirement. • Added condition D.1.d.iv to require a performance test on the No. 5 Lime Kiln Scrubber within 180 days of resumption of normal operation after the scrubber upgrades. • Updated Table 2.2 D.2 to specify the operating parameter requirements before and after the scrubber upgrades to the Nos. 4 and 5 Lime Kiln Scrubbers
133 – 140	2.2 H	• To reflect the correct modeling configuration used to derive Table 2.2 H.1, the lime pre-coat filter vacuum pumps and the dregs filter in were added to the emission limits associated with the lime pre-coat filters • Added the White Liquor Pressure Disc Filter to the TAP limits for white liquor clarifiers • Added North Causticizer to the TAP limits for the causticizers
143 - 145	2.2 J	• Modified condition J.1.c.iii to refer to the Subpart MM requirements in Section 2.2 D.1 instead of the State regulation requirements in Section 2.1 O.1. • Modified condition J.1.d.i to add a requirement to conduct a performance test to demonstrate compliance with the SO_2 emission limit following the modifications to the lime kiln scrubbers.

V. Regulatory Review – State Rules

The sources involved in the Recausticizing Optimization Project are subject to several State rules. The following summarizes the rules by source.

A. Recausticizing Sources: Green Liquor, Dregs, Causticizer, White Liquor and Lime Mud Pre-Coat Process Units

The recausticizing sources identified as being new or modified in Table 1 (green liquor clarifiers, green liquor storage, dregs filter, and lime mud pre-coat filter), above, are primarily sources of VOC, hazardous air pollutants (HAP) and NC toxic air pollutants (TAP) and have the potential emit more than 5 tons per year (tpy) of VOC. The only applicable regulation for these sources is 15A NCAC 02D .1100: Control of Toxic Air Pollutants. See Section VII, below, for a detailed discussion regarding TAP emission limits. No other State rules apply to these sources.

B. Nos. 4 and 5 Lime Kilns and Nos. 10 and 11 Recovery Furnaces

The lime kilns and recovery furnaces are subject to the following State regulations:

- 15A NCAC 02D .0501(c): Compliance with National Ambient Air Quality Standards – 1-hour Sulfur Dioxide Standards;
- 15A NCAC 02D .0508: Particulates from Pulp and Paper Mills;
- 15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources;
- 15A NCAC 02D .0521: Control of Visible Emissions;
- 15A NCAC 02D .0528: Total Reduced Sulfur from Kraft Pulp Mills;
- 15A NCAC 02D .0530(u): Use of Projected Actual Emissions to Avoid Applicability of Prevention of Significant Deterioration Requirements;
- 15A NCAC 02D .0614: Compliance Assurance Monitoring; and
- 15A NCAC 02D .1111: Maximum Achievable Control Technology.

The Federal regulations associated with 20D .0530(u), .0614 and .1111 will be discussed in further detail in Section VI, below.

1. *Nos. 10 and 11 Recovery Furnaces*

The proposed modification to the Nos. 10 and 11 Recovery Furnaces are being made to reduce plugging and to keep the DCE cyclone cleaner. These changes do not affect the applicability of the recovery furnaces to PM regulations under 02D .0508, SO_2 regulations under 02D .0516, visible emissions under 02D .0521, and total reduced sulfur (TRS) emissions under 02D .0528. No changes to these permit conditions will be necessary as a result of this project. Continued compliance is expected.

The recovery furnaces are also subject to 02D .0501(c), Compliance with National Ambient Air Quality Standards – 1-hour Sulfur Dioxide Standards. The current permit (No. 08961T28) conditions limit hourly SO_2 emissions from each recovery furnace. The proposed changes to the recovery furnace DCE cyclone ring header are not related to the recovery furnace SO_2 emissions. Therefore, this proposed project has no impact on compliance with these permit conditions and no changes to the permit are required as a result of the proposed project.

2. *Nos. 4 and 5 Lime Kilns*

The proposed modifications involve upgrades to the scrubbers installed on the lime kilns to improve compliance with current emission limits for PM. As stated above, no physical changes to the lime kilns are proposed as part of the Recausticizing Optimization Project. Blue Ridge Paper complies with the SO_2 standards under 02D .0516 by fuel supplier certification and the proposed changes to the scrubber do not impact compliance with these

requirements. Compliance with the TRS limits in 02D .0528 is demonstrated using a CEM. No changes to the permit will be necessary for conditions associated with 02D .0516 and 02D .0528.

15A NCAC 02D .0508: Particulates from Pulp and Paper Mills
Under 02D .0508, the lime kilns are subject to a PM emission limit of 0.5 pounds per equivalent tons of air dried pulp (TADP). To comply with this PM emission limit, Blue Ridge Paper has installed particulate scrubbers on both lime kilns. Testing is required on an annual basis for both kilns under 02D .0508. In order to ensure that compliance with the PM emission limit (which is measured as total suspended particulate under 02D .0508) will be demonstrated after the scrubber upgrades, the permit will be modified to require Blue Ridge Paper to conduct initial performance tests for the lime kilns no later than 180 days after initial startup of each scrubber and to require the establishment of new operating parameters. Because they are upgrading the scrubbers to enhance compliance with the PM standards, compliance with the 0.5 lb/equivalent TADP is expected.

15A NCAC 02D .0521: Control of Visible Emissions
The Nos. 4 and 5 Lime Kilns are subject a 40-percent opacity visible emissions standard under 02D .0521. Under this standard, Blue Ridge Paper is required to take daily observations of each lime kiln emission point and compare the results to an established normal visible emission level. Because the scrubbers are being modified, the permit will be modified to require Blue Ridge Paper will need to reestablish normal for the lime kilns. Compliance is expected.

15A NCAC 02D .0501(c): Compliance with National Ambient Air Quality Standards – 1-hour Sulfur Dioxide Standards
The lime kilns are subject to 02D .0501(c), Compliance with National Ambient Air Quality Standards – 1-hour Sulfur Dioxide Standards. The current permit (No. 08961T28) conditions in Section 2.2 J.1 limit hourly SO_2 emissions from each lime kiln. The 02D .0501(c) operating restrictions condition in the current permit (T28) requires Blue Ridge Paper to comply with the monitoring, recordkeeping, and reporting specified for compliance with total PM emissions under the 02D .0508 condition (Section 2.1 O.1.c through O.1.f). Compliance with the 02D .0508 emission limit for the No. 5 Lime Kiln, is demonstrated by meeting the Subpart MM requirements. For the No. 4 Lime Kiln, compliance with the 02D .0508 limit is demonstrated by meeting the Subpart MM requirements when No. 6 fuel oil provides more than 50 percent of the heat input to the kiln. However, previous testing indicated that, when natural gas provided 50 percent or more of the heat input to the kiln, compliance with Subpart MM may not demonstrate compliance with the 02D .0508 particulate matter limit. Therefore, Blue Ridge Paper established more stringent monitoring requirements for the No. 4 Lime Kiln when 50 percent or less of the heat input was provided from No. 6 fuel oil.

However, the Subpart MM operating parameter requirements apply to all operating scenarios and do not differentiate between the types of fuels fired in the lime kilns. Furthermore, Subpart MM has more prescriptive operational requirements to ensure compliance with the filterable PM emission limits than the 02D .0508 requirements for total PM emissions in Section 2.1 O.1 of the current permit. The intention of the operating restrictions in Section 2.2 J.1 is to ensure compliance with the SO_2 emission limits by properly operating and maintaining the lime kiln scrubbers. To simplify and clarify the intention of the operating restrictions associated with the SO_2 emission limits, Section 2.2 J.1.c.iii was modified to refer directly to the Subpart MM requirements in Section 2.2 D.1, rather than reference Section 2.1 O.1, which then refers to Section 2.2 D.1. Additionally, because Blue Ridge Paper is proposing to modify the lime kiln scrubbers, it will be necessary to conduct the testing required in Section 2.2 J.1.d to ensure that the modifications to the scrubbers do not have an adverse impact on compliance with the SO_2 emission limits. Therefore, Section 2.2 J.1.d.i was modified to require a performance test for SO_2 within 180 days after resumption of normal operations following modifications to the lime kiln scrubbers. During the performance tests, Blue Ridge Paper will confirm or re-establish operating parameters that will demonstrate compliance with 02D .0508 total PM emission limits, the filterable PM emission limit under Subpart MM, and the SO_2 emission limit under 02D .0501(c). Because the most recent testing on these lime kilns was an order of magnitude lower than the emission limit, compliance is expected.

VI. Regulatory Review - Federal Rules (CAM, NSPS, NESHAP/MACT, NSR/PSD)

Blue Ridge Paper is subject to several federal rules: Compliance Assurance Monitoring (CAM), New Source Performance Standards (NSPS), Maximum Achievable Control Technology (MACT) under National Emission Standards for Hazardous Air Pollutants (NESHAP), and New Source Review (NSR)/Prevention of Significant Deterioration (PSD). The following discussion summarizes the impact of the proposed project on each of these federal regulations.

A. Compliance Assurance Monitoring

The compliance assurance monitoring (CAM) rule requires owners and operators to conduct monitoring to provide a reasonable assurance of compliance with applicable requirements under the act. Monitoring focuses on emissions units that rely on pollution control device equipment to achieve compliance with applicable standards. An emission unit is subject to CAM, under 40 CFR Part 64, if all of the following three conditions are met:

- The unit is subject to any (non-exempt, e.g., pre-November 15, 1990, Section 111 or 112 standard) emission limitation or standard for the applicable regulated pollutant.
- The unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit's pre-control potential emission rate exceeds 100 percent of the amount required for a source to be classified as a major source; i.e., either 100 tpy (for criteria pollutants) or 10 tpy of any individual/25 tpy of any combination of HAP.

In addition, an emissions unit is not subject to CAM if the unit is subject to one of the following emissions limitations or standards:

- Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act (e.g., MACT or NSPS).
- Stratospheric ozone protection requirements under title VI of the Act.
- Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the Act.
- Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by the Administrator under the Act that allows for trading emissions within a source or between sources.
- An emissions cap that meets the requirements specified in §70.4(b)(12) or §71.6(a)(13)(iii) of this chapter.
- Emission limitations or standards for which Title V permit contains a continuous compliance determination method, as defined in 40 CFR 64.1, unless the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (e.g., a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

1. *Recausticizing Sources: Green Liquor, Dregs, Causticizer, White Liquor and Lime Mud Pre-Coat Process Units*

The green liquor clarifiers and storage tank, dregs filter, new causticizers, new white liquor pressure disc filter, and the lime mud pre-coat filters are not equipped with control devices to achieve compliance with an emission limit standard; therefore, they are exempt from CAM per 15A NCAC 02D .0614(a)(2).

2. *Nos. 4 and 5 Lime Kilns and Nos. 10 and 11 Recovery Furnaces*

The lime kilns and recovery furnaces are subject to CAM for the PM standards in 02D .0508 (Particulates from Pulp and Paper Mills). For PM control, the lime kilns are equipped with scrubbers and the recovery furnaces are equipped with ESPs.

In the current permit, Blue Ridge Paper is required to monitor lime kiln scrubber operating parameters against specified indicator ranges. Because the proposed project involves changes to the lime kiln scrubbers, the indicator range parameters will need to be established during a performance test. The permit will include a condition under 02D .0614 to conduct a performance test after the scrubber upgrades are completed and the new operating parameters will need to be incorporated into the permit.

The indicator for the recovery furnaces is the opacity of the ESP exhaust. The ESPs are not being modified as a part of this project and no changes to the ESP indicator ranges are necessary.

B. New Source Performance Standards

There are two new source performance standards (NSPS) that potentially impact the sources associated with the Recausticizing Optimization Project: (1) Standards of Performance for Kraft Pulp Mill Affected Sources under 40 CFR Part 60, Subpart BB (Subpart BB); and (2) Standards of Performance for Kraft Pulp Mill Affected Sources for which Construction, Reconstruction, or Modification Commenced after May 23, 2013 under 40 CFR Part 60, Subpart BBa. These standards potentially apply to the lime kilns and recovery furnaces. The sources in the recausticizing area are not considered affected facilities under Subparts BB and BBa.

The lime kilns and recovery furnaces are not currently subject to Subpart BB. Should the proposed lime kiln scrubber upgrades or the proposed changes to the recovery furnace cyclone ring headers be determined to be modifications or reconstruction of the sources, Subpart BBa would apply.

Modification

Under 40 CFR 60.14(a), modification is defined as "…any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies…." The regulated pollutants under Subpart BBa are filterable PM and TRS.

As described in the permit application, Blue Ridge Paper is proposing the lime kiln scrubber upgrades to reduce PM emissions, and there is no expected change in TRS emissions due to the project. Per 40 CFR 60.14(e)(5), the addition of a system or device "whose primary function is the reduction of air pollutants" is not considered a modification under Part 60. Therefore, based on this information, the upgrades to the Nos. 4 and 5 Lime Kiln Scrubbers would not be considered modifications under NSPS.

As discussed above, the proposed changes to the Nos. 10 and 11 Recovery Furnaces are intended to maintain cleanliness in the cyclone and to prevent premature plugging of the equipment. There is no increase in recovery furnace capacity and hourly emissions are not expected to increase. As such, changes to the cyclone ring header piping would not be considered modifications under NSPS.

Reconstruction

To be considered a reconstructed source under NSPS, the cost of the components being replaced must be greater than the cost of a new source and it must be technologically and economically feasible [40 CFR 60.15(b)]. Under the NSPS definition of reconstruction, the cost of the changes to the affected facility is compared to the cost of a new affected facility. Under Subpart BBa, each lime kiln is considered an affected facility and the capital costs of the lime kiln scrubber upgrades must be compared to the cost of a new lime kiln. Likewise, each recovery furnace is considered an affected facility under Subpart BBa, and the capital cost the changes to the cyclone ring header must be compared to the cost of a new recovery furnace.

According to the information provided in the permit application amendment received on May 1, 2020, the cost of the No. 4 Lime Kiln scrubber upgrades is approximately $73,000 and Blue Ridge Paper is budgeting $250,000 for the No. 5 Lime Kiln scrubber upgrades. According to information provided by an equipment vendor, the cost of a

new lime kiln of similar capacity to the No. 4 Lime Kiln would be approximately $24,000,000 and the cost for a new lime kiln to replace the No. 5 Lime Kiln would be approximately $30,000,000.

Blue Ridge Paper stated that the recovery furnaces cyclone ring header piping changes cost $700,000 per furnace. According to vendor-supplied information, the cost of a new recovery furnace would be approximately $180,000,000.

Since the cost of a new kiln and a new recovery furnace is orders of magnitude higher than the cost of the proposed scrubber upgrades and cyclone ring header piping changes, these proposed changes are not considered reconstruction of the Nos. 4 and 5 Lime Kilns and the Nos. 10 and 11 Recovery Furnaces and Subpart BBa does not apply.

C. National Emission Standards for Hazardous Air Pollutants

There are two NESHAP that apply to sources at pulp and paper mills: (1) NESHAP from the Pulp and Paper Industry under 40 CFR Part 63, Subpart S; and (2) NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills under 40 CFR Part 63, Subpart MM.

1. *Pulp and Paper NESHAP - Subpart S*

Subpart S applies to the pulping and bleaching systems at chemical pulp mills. Affected sources are required to control HAP emissions by collecting and controlling process vent emissions. As allowed under Subpart S, Blue Ridge Paper uses the Nos. 4 and 5 Lime Kilns as control devices for non-condensable gases (NCG) from the pulp mill sources, but are not considered affected sources under Subpart S. The recausticizing sources are not affected sources under Subpart S and no changes to affected sources under Subpart S are proposed as part of this project.

2. *Chemical Recovery Combustion Source NESHAP, Subpart MM*

The lime kilns and recovery furnaces are existing affected sources under Subpart MM and are subject to limitations on PM emissions as a surrogate for HAP metals. Blue Ridge Paper complies with Subpart MM using the "bubble limit" option under 40 CFR 63.862(a)(ii). Blue Ridge Paper is required to reestablish the bubble limit if the air pollution control device is modified [40 CFR 63.862(a)(ii)(D)(*1*)]. Subpart MM defines modification as "…any physical change (excluding any routine part replacement or maintenance) or operational change that is made to the air pollution control device that could result in an increase in PM emissions." As stated in their permit application, Blue Ridge Paper is proposing upgrades to the lime kiln scrubbers with the intent of reducing PM emissions and, therefore, are excluded from the definition of modification. Furthermore, the proposed changes to the recovery furnaces cyclone ring headers are not physical or operational changes to the air pollution control devices. Additionally, because the lime kiln scrubber upgrades and recovery furnace cyclone ring header changes are not considered modifications, the MACT bubble limit for PM will not need to be reestablished.

Under the NESHAP General Provisions (40 CFR Part 63, Subpart A), reconstruction is defined in 40 CFR 63.2 as "…the replacement of components of an existing source to such an extent that the (1) fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new source, and (2) it is technologically and economically feasible to meet the relevant standards…." Under Subpart MM, the affected source is defined as the chemical recovery process, which includes all recovery furnaces, smelt dissolving tanks, and lime kilns. Although a detailed quantitative analysis regarding the cost of a new chemical recovery process was not provided, it can be determined that the fixed capital cost of upgrading the lime kiln scrubbers or making changes to the recovery furnace cyclone ring header piping (see Section VI.B, above, for project costs) would be significantly less than 50 percent of the capital cost of replacing an entire chemical recovery system. Therefore, the scrubber upgrades and changes to the recovery furnace cyclone ring headers should not be considered reconstruction under Subpart MM.

However, the Subpart MM permit condition will need to be updated due to the lime kiln scrubber upgrades. Because the Nos. 4 and 5 Lime Kiln scrubbers are being modified, DAQ requires a performance test to demonstrate compliance with the emission limits and to establish operating parameter values. Under Subpart MM, Blue Ridge Paper is required to conduct a performance test on the recovery furnaces, the smelt dissolving tanks, and the lime kilns no later than October 13, 2020. Normally, DAQ would require a performance test no later than 180 days after the beginning of normal operation following the completions of the scrubber upgrades. Blue Ridge Paper has indicated that the No. 4 Lime Kiln Scrubber upgrades will occur very soon after the revised permit is issued meaning that October 13th date would be within the 180 days of the resumption of normal scrubber operation. To take this into account, Blue Ridge Paper will be required to conduct a performance test on the No. 4 Lime Kiln Scrubber no later than October 13, 2020. Blue Ridge Paper indicated that the upgrades on the No. 5 Lime Kiln Scrubber would not be completed until after the October 13th date; therefore, Blue Ridge Paper will be required to conduct another performance test on the No. 5 Lime Kiln (in addition to the October 13th test) within 180 days of resumption of normal operation following the upgrades. Per Subpart MM, there is an option to use previously conducted performance tests, provided they are conducted using the same methods and under the same requirements that are specified in the NESHAP. The permit was also revised to only allow for this option when demonstrating compliance with the recovery furnace and smelt dissolving tank requirements.

D. New Source Review/Prevention of Significant Deterioration

As a kraft paper mill, Blue Ridge Paper is one of the 28 source categories listed in the federal prevention of significant deterioration (PSD) regulation as being subject to regulation with potential emissions greater than 100 tpy of any PSD-regulated pollutant. The mill is a major source under PSD.

1. *Current Permit PSD Conditions*

The current permit (No. 08961T18) contains a condition under 02D .0530(u), for the use of projected actual emissions to avoid applicability of PSD requirements, that applies to the Nos. 4 and 5 Lime Kilns and Nos. 10 and 11 Recovery Furnaces. Under this 02D .0530(u) condition, Blue Ridge Paper is required to keep records of actual carbon monoxide (CO) and VOC emissions and reported the emissions to DAQ for the five years following the resumption of normal operation following modifications associated with Permit Application No. 4400159.10A. According to inspection reports from ARO, this report was last received in 2018 and indicated compliance with these requirements. This reporting has ceased after the 2018 report since the five-year timeframe has expired. This condition should be removed at the next renewal.

2. *Liquor Heater Replacement Project*

On September 20, 2019, Blue Ridge Paper requested that DAQ determine whether an air quality permit was necessary for the replacement of liquor heaters for each of the 18 batch digesters as the heater approaches the end of its useful service life. The project began in June of 2017 and replacement heaters are still being installed. In their permit application, Blue Ridge Paper stated that the replacement of the liquor heaters should be considered a separate project from the Recausticizing Optimization Project.

In the past, EPA has issued guidance[7] related to the implementation of multiple projects and their impact on NSR applicability (Maplewood Memo). In their guidance memorandum, EPA provided criteria to permitting and enforcement authorities to apply with making determinations whether a source is circumventing major NSR through the minor modification process. At the heart of this guidance was the concept of whether multiple projects were considered to be "substantially related." In November 2018, EPA finalized an action, referred to as the 2009 Aggregation Action (83 FR 57324, November 15, 2018), that formalized their position on whether projects were "substantially related," which established, as a matter of policy, that activities that occurred more than three years apart are not substantially related and generally should not be aggregated for purposes of determining whether they are a single modification. Conversely, the activities that occur less than three years apart should be aggregated for

[7] Memorandum from Rasnic, John B., Director, EPA/OAQPS/SSCD to Czernaik, George T., Chief, EPA Region V, Air Enforcement Branch. Applicability of New Source Review Circumvention Guidance to 3M – Maplewood, Minnesota. June 17, 1993.

purposes of determining whether they are a single modification. In the Federal Register notice, EPA indicated their view that it would be appropriate for permitting authorities to adopt this timeframe as guidance for their sources.

However, EPA cautioned that "timing, in and of itself, is not determinative in a decision to aggregate activities." In fact, EPA stated that "there should be no presumption that activities automatically should be aggregated as a result of their proximity in time…Even if they occur over a short period of time, multiple activities should be treated as a single project for NSR purposes only when a substantial technical or economic relationship exist among changes." [74 FR 2379, January 15, 2009]

EPA further explained that to be "… 'substantially related,' there should be an apparent interconnection—either technically or economically—between the physical and/or operational changes, or a complementary relationship whereby a change at a plant may exist and operate independently, however its benefit is significantly reduced without the other activity." [74 FR 2378, January 15, 2009]

Moreover, EPA explained that "the test of a substantial relationship centers around the interrelationship and interdependence of the activities, such that substantially related activities are likely to be jointly planned (i.e., part of the same capital improvement project or engineering study), and occur close in time and at components that are functionally interconnected." EPA noted that "these factors are not necessarily determinative of a substantial relationship but are merely indicators that may suggest that two or more activities are likely to be substantially related and, therefore, candidates for aggregation." [74 FR 2378, January 15, 2009]

In summary, there are essentially three factors to consider when determining whether two projects should be considered substantially related: (1) timing of the projects; (2) relationship between the changes, i.e., can the changes existing and operate independently; and (3) planning of the projects, i.e., are they part of the same capital improvement project or engineering study.

In their application, Blue Ridge Paper addressed these factors. First, the liquor heater project first began in June 2017. Although the start of the liquor replacement project began almost exactly three years before the expected June 2020, start of the Recausticizing Optimization Project, it is close enough to the three-year timeframe considered by EPA, the other factors must also be considered to determine whether the projects are substantially related.

The relationship between the liquor heater replacement project and the Recausticizing Optimization Project was considered next. As stated above, the liquor heaters are being replaced as they end of their useful service life. The changes proposed for the recausticizing area are not dependent on the replacement of liquor heaters. Any increase in pulp production observed as a result of the liquor project would not necessarily result in a similar increase in lime throughput because the mill currently purchases fresh lime to make up for any lime that is needed to produce the white liquor needed by the batch digesters. Furthermore, Blue Ridge Paper has projected that the annual pulp production rate following the completion of the liquor heater replacement is lower than the annual pulp production rate extrapolated from the highest month of production.

Finally, Blue Ridge Paper has stated that the two projects are funded separately. The liquor heaters are being replaced as they approach the end of their useful life. The Recausticizing Optimization Project is a cost savings project to reduce the amount of lime that is being landfilled and replaced with purchased fresh lime.

Based on these factors, DAQ agrees with Blue Ridge Paper's assessment that the two projects are not substantially related and should not be considered together for PSD applicability.

3. *Recausticizing Optimization Project PSD Applicability Determination*

The PSD regulations apply to major modifications at major stationary sources. A major modification is said to have occurred when "…any change to a major stationary source that would result in a significant emission increase of any pollutant subject to regulation…" under the Clean Air Act. Blue Ridge Paper provided an applicability analysis to determine whether the Recausticizing Optimization Project would result in a significant increase in emissions.

The NC regulations under 15A NCAC 02D .0530 allow for project netting. Under project netting, emission increases and decreases from all emission units at the source that are defined as the project are used and compared to the significant emission rates (SERs).

A significant increase in emissions of a regulated PSD pollutant is projected to have occurred if the difference between the emissions after the project and the emissions before the project are greater than the SER for that pollutant. When a new emissions unit at a major source is being installed, the emissions after the project are based on the potential to emit (PTE) of the new unit. Therefore, emissions after the project for the new causticizer and the new white liquor pressure disc filters would be based on PTE for each source. However, as discussed above, emissions from sources in the recausticizing area are calculated for the processing step (e.g., white liquor clarification or causticizing) and not the individual process unit (e.g., white clarifier or white liquor storage). Therefore, as a conservative measure, Blue Ridge Paper calculated the PTE from the causticizing and white liquor processing steps as a group instead of just from the new causticizer and the new white liquor pressure disc.

Under 40 CFR 51.166(r)(6) and 15A NCAC 02D .0530(u), for projects involving existing emissions units at a major stationary source, projected actual emissions (PAE) can be used to represent the emissions after the project. Projected actual emissions mean the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant.

Blue Ridge Paper provided a calculation of the net change in project emissions using a hybrid approach in which the project netting was calculated using the baseline actual-to-projected actual emissions for existing sources and baseline actual-to-potential emissions for new sources. Blue Ridge Paper selected the baseline period as the average production reported in calendar years 2016 and 2017 as the consecutive 24-month period within the five-year period immediately preceding the date the permit application was received by DAQ. The PSD applicability analysis is presented in Table 3.

Projected actual emissions for the modified existing emissions units and the sources affected by this project. The PAE for the lime kilns was determined using the projected lime throughput following the completion of the optimization project. Projected actual emissions from other affected sources (e.g., digesters, recovery furnaces, other recausticizing equipment other than the lime kilns, etc.) are based on the pulp production represented by the highest monthly pulp production rate that was observed during the baseline period, extrapolated to annual production. The paper machines and power boilers are not considered sources affected by the Recausticizing Optimization Project.

As allowed under 40 CFR 51.166(b)(40)(i)(*c*), the emissions that could have been accommodated (CHA) during the baseline period and that are unrelated to the project can be excluded from the projected actual emissions. The CHA emissions from modified and affected sources are based on the annualized peak pulp and lime production during the baseline period, considering future demand growth, which occurred in August 2016.

As shown in Table 3, below, the change in emissions related to the Recausticizing Optimization Project is less than the SER for each PSD pollutant. Therefore, this project is not considered a major modification under PSD.

Because PAE was used in project netting, a recordkeeping and reporting requirement was added to the permit as a 15A NCAC 02D .0530(u) condition using the total PAE/PTE in Table 3, below. Under this condition, Blue Ridge Paper will be required to monitor and record annual emissions from the new/modified/affected sources (identified in the permit in Table 4, below) for the previous 12 months. Annual reports of the emissions calculations and comparisons to the proposed limits in Table 3 will also be required. Since the Recausticizing Optimization Project will not result in an increase in capacity and will not increase potential to emit of the affected/modified sources, the reports will need to be submitted for five years.

Table 3. Prevention of Significant Deterioration Applicability Analysis

	Emissions, tpy [a]											
	CO	**Pb**	**NO_X**	**PM (f)[b]**	**PM_{10} (f+c)[b]**	**$PM_{2.5}$ (f+c)**	**SO_2**	**F**	**H_2SO_4**	**TRS (as H_2S)**	**H_2S**	**VOC**
Baseline Emissions (BAE)	1,063	0.0139	1,397	306	261	206	39	0.613	2.37	212	71	1,416
Could Have Accommodated Emissions (CHA)	1,092	0.0147	1,445	318	272	215	40	0.630	2.50	215	73	1,451
Projected Actual Emissions (PAE)/Potential Emissions (PTE)	1,093	0.0160	1,480	330	282	225	41	0.630	2.78	218	76	1,453
Significant Emissions Increase {PAE – CHA or PTE – BAE	0.8	$1.35x10^{-3}$	34.5	11.6	10.5	9.7	0.7	0	0.278	3.2	2.9	2.7
PSD Significant Emission Rates	**100**	**0.6**	**40**	**25**	**15**	**10**	**40**	**3**	**7**	**10**	**10**	**40**
PSD Review Required	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

[a] Emissions from Permit Application Addendum, received May 1, 2020. VOC Emissions were updated and submitted via email on May 20, 2020. VOC and TRS emissions were updated and submitted via email on May 28, 2020.

[b](f) = filterable PM emissions; (f+c) = filterable plus condensable PM emissions

Table 4. Recausticizing Optimization Project New, Modified and Affected Sources

ID No.	Emission Source Description	Emission Sources of PSD Pollutants									
		VOC	CO	NO_X	Pb	$PM/PM_{10}/PM_{2.5}$	SO_2	F	H_2SO_4	TRS	H_2S
G02004	Digester Area (Batch Digesters and Blow Heat Systems)	✓								✓	
G03005	No. 1 Hardwood Fiberline Brownstock Washing System (Brownstock Washers and Foam Tanks)	✓								✓	✓
G03006	No. 2 Pine Fiberline Brownstock Washing System (Washers, Filtrate tanks, and Brownstock Washer Mix Tanks)	✓								✓	✓
G03007	Reject Knots	✓								✓	
G04009	No. 1 Hardwood Fiberline Oxygen Delignification System (Reactor, Blow Tank, Washer, and Filtrate Chest)	✓	✓							✓	✓
G04010	No. 2 Pine Fiberline Oxygen Delignification System (Reactor, Blow Tank, and Washer)	✓	✓							✓	✓
G04011	White Liquor Oxidation System	✓									
G04025	No. 1 Hardwood Fiberline Pulp Screening System	✓								✓	
G04026	No. 2 Pine Fiberline Pulp Screening System	✓								✓	✓
G05012	No. 1 Hardwood Fiberline Bleaching System (D1, Eo, and D2 Towers, Washers, Filtrate Tanks)	✓	✓							✓	
G05013	No. 2 Pine Fiberline Bleaching System (D1, Eo, and D2 Towers, Washers, and Filtrate Tanks)	✓	✓							✓	
G05073	Minerals Removal Process (MRP)	✓									
G06014	Chlorine Dioxide Generation System (ClO2 Generator and ClO2 Solution Storage Tanks)	✓									
I-G06015	Methanol Storage	✓									
G07019	Heavy Black Liquor Storage	✓								✓	✓
G07086	Weak Black Liquor Storage	✓								✓	✓
G08020	No. 10 Recovery Furnace	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
G08021	No. 11 Recovery Furnace	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
I-G08020-1	Saltcake Mix Tank #10 RF	✓									
I-G08021-1	Saltcake Mix Tank #11 RF	✓									
G08022a	Black Liquor Oxidation System	✓	✓	✓		✓	✓		✓	✓	✓
G08023	No. 10 Smelt Dissolving Tank	✓		✓	✓	✓	✓			✓	✓
G08024	No. 11 Smelt Dissolving Tank	✓		✓	✓	✓	✓			✓	✓
I-G08074	Chloride Removal Process (CRP)	✓									
G09027	Lime Production - Other Units (Nos. 4, 5, 6 Lime Pre-coat Filters – 09-PU-001 -002, and -004)	✓								✓	
G09027	Lime Production – Other Units (Nos. 4, 5, 6 Lime Pre-Coat Filter Vacuum Pumps – 09-PU-001a, -002a, and -004a)	✓									
G09027-3	Dregs Filter	✓									
G09028	No. 4 Lime Kiln	✓	✓	✓	✓	✓	✓		✓	✓	✓
G09029	No. 5 Lime Kiln	✓	✓	✓	✓	✓	✓		✓	✓	✓
G10034	No. 6 Lime Slaker	✓				✓ (PM/PM_{10} only)				✓	
G10035	No. 5 Lime Slaker	✓				✓ (PM/PM_{10} only)				✓	

Table 4. Recausticizing Optimization Project New, Modified and Affected Sources

ID No.	Emission Source Description	Emission Sources of PSD Pollutants									
		VOC	CO	NO_X	Pb	$PM/PM_{10}/PM_{2.5}$	SO_2	F	H_2SO_4	TRS	H_2S
I-G10036.10-TK-010	Causticizer (Center)	✓									
I-G10036.10-TK-009	Causticizer (East)	✓									
I-G10036.10-TK-025	Causticizer (South)	✓									
I-G10036.10-TK-011	Causticizer (West)	✓									
I-G10036.10-TK-026	Causticizer (North)	✓									
G10089	Green Liquor Clarification and Storage	✓								✓	
G10090	Green Liquor Stabilization	✓								✓	
I-G10091	Lime Mud Washers and Storage	✓									
G16081	WTP Primary Clarifiers[a]	✓									
G21072	Tall Oil Reactor	✓								✓	✓
G16082	WTP Aeration and Digestion Basins	✓								✓	✓
G23066.k	No. 1 Fiberline Building Ventilation	✓									
G23066.l	No. 2 Fiberline Building Ventilation	✓									
I-G23066.a	Sewer Lines	✓								✓	✓
I-G23066.d	Water Treatment	✓									
I-G23066.b	Truck Traffic Fugitives					✓					
G24087	No. 1 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)	✓								✓	
G24088	No. 2 Hardwood Fiberline Deckers (Deckers and Filtrate Tank)	✓								✓	
G24092	Hardwood Brownstock High Density Storage	✓								✓	✓
G24094	Pine Brownstock High Density Storage	✓								✓	✓
I-G10036.10-TK-015	White Liquor Clarifier (West)	✓									
I-G10036.10-TK-018	White Liquor Clarifier (EIMCO)	✓									
I-G10036.10-TK-012	White Liquor Clarifier (South)	✓									
I-G10036.10a	White Liquor Pressure Disc Filter	✓									
I-G23065	Bleached Stock Storage	✓								✓	✓
G09031	No. 6 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)					✓					
G09032	No. 5 Lime Silo Dust Collection System (Storage Silos, Conveyor, Crusher, and Elevator)					✓					

[a]Emissions are included under WTP Aeration and Digestion Basins

II. Facility Wide Air Toxics

Blue Ridge Paper is subject to toxics regulations under 15A NCAC 02D .1100 and 02Q .0700. Section 2.2 H of the current permit (T28) contains TAP emission limits for several sources. These limits are based on maximum potential emissions from each source and were optimized such that the peak modeled concentration would be no higher than 98 percent of the acceptable ambient level (AAL) for each TAP. Blue Ridge Paper stated that the design capacity and permitted maximum production rates for the chemical recovery system and the recausticizing equipment will not increase as a result of the proposed project. As such the most recently approved TAP modeling is still representative of the Canton mill following the planned modifications.

The current permit does not have specified TAP limits from the existing Dregs Filter (ID No. G09027-3). According to Blue Ridge Paper, the emissions from the Dregs Filter were included with the Lime Mud Pre-Coat Filter (ID Nos. G09027.09-PU-001, G09027.09-PU-002, and G09027.09-PU-004) modeled emission rates. Specifically, the TAP emissions rates shown in Table 2.2 H.1 of the current permit for the Nos. 4, 5 and 6 Lime Mud Pre-Coat Filters represents the combined emissions from the Nos. 4, 5 and 6 Lime Mud Pre-Coat Filters, the associated Nos. 4, 5 and 6 Lime Mud Pre-Coat Filter Vacuum Pumps, and the Dregs Filter. Blue Ridge Paper requested that the description in Table 2.2.H.1 be modified to list all seven sources for improved transparency.

As discussed above, the emissions from sources in the recausticizing process are estimated for the processing step and not the specific process units. Therefore, the new White Liquor Pressure Disc Filter and the new Causticizer will be added to the emission source descriptions in Table 2.2 H.1 in the current permit for the modeled emission rates associated with for the white liquor clarifiers and the causticizers. The revisions to Table 2.2 H.1 of the permit are presented in Table 5, below.

Table 5. Revisions to NC Toxic Air Pollutant Emission Limits[a]

Permit ID No.	Emission Source Description	Toxic Air Pollutant (CAS No.)	Emission Limit (lb/yr)	Emission Limit (lb/day)	Emission Limit (lb/hr)
G09027.09-PU-001 G09027.09-PU-002 G09027.09-PU-004 *G09027.09-PU-001a* *G09027.09-PU-002a* *G09027.09-PU-004a* *G09027-3*	No. 4 Lime Pre-Coat Filter No. 5 Lime Pre-Coat Filter No. 6 Lime Pre-Coat Filter *No. 4 Lime Pre-Coat Filter Vacuum Pump* *No. 5 Lime Pre-Coat Filter Vacuum Pump* *No. 6 Lime Pre-Coat Filter Vacuum Pump* *Dregs Filter*	acetaldehyde (75-07-0)			8.08E+00
		acrolein (107-02-8)			3.55E-02
		benzene (71-43-2)	6.86E+00		
		carbon disulfide (75-15-0)		6.57E+00	
		chloroform (67-66-3)	1.22E+02		
		formaldehyde (50-00-0)			5.54E-02
		n-hexane (110-54-3)		6.11E+01	
		methylene chloride (75-09-2)	1.28E+03		3.57E-01
		methyl ethyl ketone (78-93-3)		3.47E+01	6.74E+00
I-G10036.10-TK-015 I-G10036.10-TK-018 I-G10036.10-TK-012 *I-G10036.10a*	White Liquor Clarifier (West) White Liquor Clarifier (EIMCO) White Liquor Clarifier (South) *White Liquor Pressure Disc Filter*	acetaldehyde (75-07-0)			1.61E+00
		acrolein (107-02-8)			4.12E-02
		benzene (71-43-2)	2.13E+01		
		methyl ethyl ketone (78-93-3)		3.26E+00	8.20E-01
I-G10036.10--TK-010; I-G10036.10-TK-009; I-G10036.10-TK-025; I-G10036.10-TK-011 *I-G10036.10-TK-026*	Causticizer (Center) Causticizer (East) Causticizer (South) Causticizer (West) *Causticizer (North)*	acetaldehyde (75-07-0)			8.56E-01
		acrolein (107-02-8)			1.19E-02
		ammonia (7664-41-7)			1.10E+01
		benzene (71-43-2)	4.93E+00		
		carbon disulfide (75-15-0)		3.37E-01	
		chloroform (67-66-3)	1.17E-01		
		formaldehyde (50-00-0)			7.01E-03
		n-hexane (110-54-3)		2.56E-01	
		methylene chloride (75-09-2)	4.12E+01		1.48E-02
		methyl ethyl ketone (78-93-3)		1.20E-01	3.02E-02
		phenol (108-95-2)			4.10E-03

[a] Changes to Emission Source Description and Permit ID No. are in *italics.*

VIII. Facility Emissions Review

The table on the first page of this permit review presents the criteria pollutant (plus total HAP) from the latest available approved facility emissions inventory (2018). The HAP emitted in the largest quantity from the facility is methanol. The Recausticizing Optimization Project is expected to reduce PM emissions and is not expected to change HAP or VOC emissions.

IX. Facility Compliance Status

DAQ has reviewed the compliance status of this facility with respect to its Title V Air Permit. Due to its size and complexity, the Blue Ridge Paper mill is inspected in phases. The most recent inspection of the facility was conducted on September 20, 2019, by Mr. Brendan Davey with the Asheville Regional Office (ARO). The following is a five-year compliance history.

- On December 09, 2016, Blue Ridge Paper was issued an NOV/NRE for violation of 15A NCAC 02Q .0508 – Permit Content. This violation was resolved on December 9, 2016.
- On March 14, 2017, Blue Ridge Paper was issued an NOV/NRE for a late Permit Report (excluding annual compliance certification). This violation was resolved on March 17, 2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV for failing to conduct required daily visual inspection of the flyash handling bagfilter systems. This violation was resolved on 04/17/2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV for exceeding toxic air pollutant permit limits and failure to submit a timely annual report. This violation was resolved on 04/07/2017.
- On March 14, 2017, Blue Ridge Paper was issued an NOV/NRE for violation of 15A NCAC 02D .0400 – Ambient Air Quality Standards. Resolution was addressed via a special order of compliance (SOC) No. 2017-002 and expired on December 31, 2019.
- On October 9, 2018, Blue Ridge Paper was issued a NOV/NRE for failure to conduct the required annual internal inspection of a cartridge bagfilter under 15A NCAC 02D .0515 – Particulates from Miscellaneous Industrial Processes. This violation was resolved on 10/24/2018.
- On October 9, 2018, Blue Ridge Paper was issued an NOV/NRE for violation of General Condition F of Air Permit No. 08961T24. This violation was resolved on 10/24/2018.
- On October 22, 2019, Blue Ridge Paper was issued an NOV for failure to conduct complete boiler MACT tune-ups the Riley Bark, Riley Coal, and No 4. Power Boilers. This violation was resolved on November 22, 2019.
- On May 14, 2020, Blue Ridge Paper was issued an informal NOV for failure to maintain the 30-day rolling average pressure drop for Riley Bark Boiler's wet scrubber above the compliance parameter established during November 15, 2018 particulate compliance test. This violation has not been resolved.

X. Draft Permit Review Summary

The Permittee was sent a draft of the permit and permit review on May 27, 2020. Comments from the Permittee were received on May 29, 2020. The comments received were primarily editorial in nature or were in response to questions posed by DAQ and were incorporated into the final permit.

Copies of the draft permit and permit review were sent to the ARO on May 27, 2020. Comments from the ARO were received on May 29, 2020. The comments received were primarily editorial in nature and were incorporated into the final permit.

XI. Public Notice/EPA and Affected State(s) Review

Public notice not required at this time. This permit action is for the first step of a two-step process as per 15A NCAC 2Q .0501(b)(2).

XII. Conclusions, Comments and Recommendations

PE Seal

Pursuant to 15A NCAC 02Q .0112 "Application requiring a Professional Engineering Seal," a professional engineer's seal (PE Seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in Rule .0103 of this Section that involve:

(1) design;
(2) determination of applicability and appropriateness; or
(3) determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer's seal (PE Seal) **WAS** required for this modification and was included on Form D5.

Zoning

A Zoning Consistency Determination per 2Q .0304(b) **WAS** required for this proposed modification. Blue Ridge Paper notified Mr. Jason Burrell, Canton Planning Department, of the proposed Recausticizing Project and requested a Zoning Consistency Determination.

Recommendations

This permit modification application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Recommend Issuance of Permit No. 08961T29. ARO has received a copy of this permit and submitted comments that were incorporated as described in Section X.