

Facility Name: **Brunswick Cellulose LLC**
 City: Brunswick
 County: Glynn
 AIRS #: 04-13-127-00003

Application #: TV-482579
 Date Application Received: June 29, 2020
 Permit No: 2631-127-0003-V-07-0

Program	Review Engineers	Review Managers
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Introduction

This narrative is being provided to assist the reader in understanding the content of referenced operating permit. Complex issues and unusual items are explained here in simpler terms and/or greater detail than is sometimes possible in the actual permit. The permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Facility Identification

1. Facility Name: Brunswick Cellulose LLC
2. Parent/Holding Company Name: GP-Cellulose, LP
3. Previous and/or Other Name(s)

Brunswick Pulp & Paper Company
 Georgia-Pacific Brunswick Operations
 Brunswick Cellulose, Inc.
 Georgia-Pacific Southeastern Chlorate Plant

4. Facility Location: 1400 West Ninth Street, Brunswick, Georgia 31521
5. Attainment, Non-attainment Area Location, or Contributing Area

The facility is located in an attainment area for all pollutants.

B. Site Determination

There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current Title V permits, all amendments, 502(b)(10) changes, and off-permit changes, issued to the facility, based on a comparative review of form A.6, Current Permits, of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office.

Table 1: List of Current Permits, Amendments, and Off-Permit Changes

Permit Number and/or Off-Permit Change	Date of Issuance/ Effectiveness	Purpose of Issuance
2631-127-0003-V-06-0	January 1, 2016	Title V Renewal
Off Permit Change	July 2016	Replacement of vacuuming systems on the Nos. 4 & 5 Paper Machines (MG05 & MG06).
2631-127-0003-V-06-1	September 30, 2016	Clarifying pulp condensate treatment options as allowed by 40 CFR 62.446(e).
Off Permit Change	October 2016	Replacement of the steam drum shell on the No. 6 Power Boiler.
Off Permit Change	January 2017	Improvements to the non-condensable gas (NCG) collection system.
2631-127-0003-V-06-2	February 2, 2017	Removal of scrubbant pH monitoring requirements and excursions for the Nos. 5 & 6 Smelt Dissolving Tanks (RSS5 & RSS6).
Off Permit Change	July 2017	Replacement of the No. 2 Bark Hog (W036).
Off Permit Change	April 2018	Replacement of steam heaters in the No. 4 Bleach Plant.
Off Permit Change	December 2018	Replacement of the West and East Lime Storage Silo

		Baghouses.
Off Permit Change	March 2019	Replacement of fuel oil auxiliary burners on No. 5 Recovery Furnace (R401).
2631-127-0003-V-06-3	May 1, 2019	Incorporation of 40 CFR 63 Subpart MM changes.
Off Permit Change	October, 2020	Installation of a temporary cooling tower and the rebuilding of the existing cooling tower for the Pre-Evaporators (CT03).
Off Permit Change	January 2021	Process efficiency improvements due to consolidating various control rooms into single operations center.
Off Permit Change	April 2021	Rebuilding electrical fields on the No. 5 Recovery Furnace ESP (REP5).
2631-127-0003-V-06-4	October 7, 2021	Replacement of No. 5 Smelt Dissolving Tank.
2631-127-0003-V-06-5	May 6, 2022	Installation of new, single-line Brown Stock Washer System (PG30) and associated equipment.

D. Process Description

1. SIC Codes(s)

2631 – Paperboard Mills

The SIC Code(s) identified above were assigned by EPD's Air Protection Branch for purposes pursuant to the Georgia Air Quality Act and related administrative purposes only and are not intended to be used for any other purpose. Assignment of SIC Codes by EPD's Air Protection Branch for these purposes does not prohibit the facility from using these or different SIC Codes for other regulatory and non-regulatory purposes.

Should the reference(s) to SIC Code(s) in any narratives or narrative addendum previously issued for the Title V permit for this facility conflict with the revised language herein, the language herein shall control; provided, however, language in previously issued narratives that does not expressly reference SIC Code(s) shall not be affected.

2. Description of Product(s)

The facility produces bleached Kraft pulp.

3. Overall Facility Process Description

This is provided in Section 1.3 of Permit No. 2631-127-0003-V-07-0.

4. Overall Process Flow Diagram

The facility provided a process flow diagram in their Title V permit application.

E. Regulatory Status

1. PSD/NSR

Brunswick Cellulose LLC owns and operates an integrated bleached Kraft pulp mill. Since potential emissions exceed 100 tpy for each pollutant, the facility is considered a major source under PSD regulations and has taken the following PSD and PSD Avoidance limits:

PSD Limits

No. 4 Power Boiler (U700)

FPM is limited to 0.05 lb/MMBtu

No. 5 Recovery Furnace (R401)

FPM/PM₁₀ is limited to 0.021 gr/dscf (corrected to 8% O₂) while firing BLS and fuel oil

NO_x is limited to 100 ppm (corrected to 8% O₂) while firing BLS and fuel oil

CO is limited to 300 ppm (corrected to 8% O₂) while firing BLS and fuel oil

VOC is limited to 0.04 lb/MMBtu while firing BLS and fuel oil

H₂S is limited to 4 ppm (corrected to 8% O₂) while firing BLS and fuel oil

No. 6 Recovery Furnace (R407)

FPM/PM₁₀ is limited to 0.021 gr/dscf (corrected to 8% O₂) while firing BLS and fuel oil

FPM is limited to 53.7 lb/hour

SO₂ is limited to 200 lb/hr

SO₂ is limited to 180 ppm by volume (corrected to 3% O₂)

NO_x is limited to 100 ppm by volume (corrected to 8% O₂)

CO is limited to 300 ppm (corrected to 8% O₂) while firing BLS and fuel oil

VOC is limited to 0.04 lb/MMBtu while firing BLS and fuel oil

H₂S is limited to 4 ppm (corrected to 8% O₂) while firing BLS and fuel oil

No. 6 Smelt Dissolving Tank (R408)

FPM/PM₁₀ is limited to 0.20 lb/ton BLS (dry weight)

FPM is limited to 18.80 lb/hr

SO₂ is limited to 5.70 lb/hr

SO₂ is limited to 0.062 lb/ton BLS (dry weight)

No. 4 Bleach Plant (BG08)

CO is limited to 1.69 lb/UODTP

VOC is limited to 0.092 lb/ADTP

No. 3 Lime Slaker

FPM/PM₁₀ is limited to 0.07 lb/ton CaO

VOC – only freshwater used in lime make-up area (work practice)

Paper Machines (MG10) – Work Practice

VOC – conduct a final rinse to the pulp at the bleach plant prior to entering the paper machines with either freshwater or whitewater; use non-VOC containing or negligible-VOC content additives.

FPM – handle solid powdered additives in an enclosure.

Backup NCG Incinerator/Scrubber System (R480 & RIS1)

NO_x is limited to 0.456 lb/ADTP

NO_x is limited to 100 tpy

*PSD Avoidance Limits*No. 4 Power Boiler (U700)

Tire derived fuel (TDF) is limited to 100 tons/day and/or sludge is limited to 70 bone dry tons/day

SO₂ is limited to 2,002 tons per 12-consecutive month period

NO_x is limited to 682 tons per 12-consecutive month period

CO is limited to 1,183 tons per 12-consecutive month period

VOC is limited to 63 tons per 12-consecutive month period

No. 6 Power Boiler (U706)

No. 2 fuel oil is limited to 2,508,114 gallons per 12-consecutive month period

NO_x is limited to 0.065 lb/MMBtu while burning natural gas

CO is limited to 0.15 lb/MMBtu while burning fuel oil

CO is limited to 0.065 lb/MMBtu while burning natural gas

No. 7 Power Boiler (U707)

Fuel oil is limited to 1,050,000 gallons per 12-consecutive month period

FPM is limited to 0.015 lb/MMBtu while burning natural gas

NO_x is limited to 39.1 tons per 12-consecutive month period

NO_x is limited to 0.1 lb/MMBtu while burning fuel oil

NO_x is limited to 0.08 lb/MMBtu while burning natural gas

No. 5 Recovery Furnace (R401)

TRS is limited to 10 ppm by volume (corrected to 8% O₂)

Fuel oil is limited to 2,100,000 gallons per 12-consecutive month period

No. 6 Recovery Furnace (R407)

Fuel oil is limited to 1,540,012 gallons per 12-consecutive month period

No. 5 Lime Kiln (L537)

FPM is limited to 35.0 lb/hr

Backup NCG Incinerator/Scrubber System (R480 & RIS1)

SO₂ is limited to 9.1 lb/hr

NO_x is limited to 215.5 tons per 12-consecutive month period

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	✓	✓		
PM ₁₀	✓	✓		
PM _{2.5}	✓	✓		
SO ₂	✓	✓		
VOC	✓	✓		
NO _x	✓	✓		
CO	✓	✓		
TRS	✓	✓		
H ₂ S	✓	✓		
Individual HAP	✓	✓		
Total HAPs	✓	✓		

3. MACT Standards

40 CFR 61 Subpart E – *National Emission Standards for Hazardous Air Pollutants for Mercury*

40 CFR 63 Subpart S – *National Emission Standards for Hazardous Air Pollutants for the Pulp and Paper Industry*

40 CFR 63 Subpart MM – *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills*

40 CFR 63 Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

40 CFR 63 Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial-Commercial-Institutional Boilers and Process Heaters*

40 CFR Part 63 Subpart GGGGG – *National Emission Standards for Hazardous Air Pollutants: Site Remediation.*

4. Program Applicability (AIRS Program Codes)

Program Code	Applicable (y/n)
Program Code 6 - PSD	Y
Program Code 8 – Part 61 NESHAP	Y
Program Code 9 - NSPS	Y
Program Code M – Part 63 NESHAP	Y
Program Code V – Title V	Y

Regulatory Analysis

II. Facility Wide Requirements

None applicable.

III. Regulated Equipment Requirements

A. Equipment List for the Process

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
R401	No. 5 Recovery Furnace	40 CFR 52.21 40 CFR 63 Subpart S 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g) 391-3-1-.02(2)(gg)	REP5	No. 5 Recovery Furnace ESP
R407	No. 6 Recovery Furnace	40 CFR 52.21 40 CFR 60 Subpart Db 40 CFR 60 Subpart BB 40 CFR 63 Subpart S 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g)	REP6	No. 6 Recovery Furnace ESP
R403	No. 5 Smelt Dissolving Tank	40 CFR 60 Subpart BBa 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(gg)	RSS5	No. 5 Smelt Tank Scrubber
R408	No. 6 Smelt Dissolving Tank	40 CFR 52.21 40 CFR 60 Subpart BBa 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(gg)	RSS6	No. 6 Smelt Tank Scrubber

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
R484	No. 2 Concentrator	40 CFR 60 Subpart BB 40 CFR 63 Subpart S 391-3-1-.02(2)(gg)	R401 R407 R480	No. 5 or No. 6 Recovery Furnace Backup NCG Incinerator
R480	Backup NCG Incinerator	40 CFR 52.21 40 CFR 63 Subpart S 40 CFR 60 Subpart BB 391-3-1-.02(2)(b)	RIS1	Backup NCG Incinerator Scrubber
U700	No. 4 Power Boiler	40 CFR 52.21 40 CFR 61 Subpart E 391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 40 CFR 63 Subpart DDDDD	UEP4	No. 4 Power Boiler ESP
U706	No. 6 Power Boiler	40 CFR 60 Subpart Db 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	None	None
U707	No. 7 Power Boiler	40 CFR 60 Subpart Db 391-3-1-.02(2)(d) 391-3-1-.02(2)(g)	None	None
L537	No. 5 Lime Kiln	40 CFR 60 Subpart BB 40 CFR 63 Subpart MM 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g)	LEP1 LKS1	Lime Kiln ESP Lime Kiln Scrubber
R489	Methanol Rectifier	40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
R490	Rectified Methanol Storage Tank	40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
PG20	Hardwood Knotters (P110 P114)	40 CFR 63 Subpart S	None	None
PG21	Softwood Knotters (P155 P159)	40 CFR 63 Subpart S	None	None
PG22	Softwood Screens (P124 P134)	40 CFR 63 Subpart S	None	None
PG23	Softwood Screen & Deckers (P189 P193)	40 CFR 63 Subpart S	None	None
PG25	Turpentine Recovery System (100V, 423V- 425V, R455, P197, P198, P205)	40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
PG27	Hardwood Washer (P115 P121)	40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
PG28	Softwood Washers (P160 P168)	40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
PG29	Hardwood Deckers (P136, P127, & P140)	40 CFR 63 Subpart S	None	None
PG35	Oxygen Delignification System (P220 P229) (P223 – P229)	40 CFR 63 Subpart S	R401 R407	No. 5 Recovery Furnace No. 6 Recovery Furnace
PG30	Brownstock Washer System	40 CFR 52.21 40 CFR 60 Subpart BB 40 CFR 60 Subpart BBa 40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
PG31	Blow Tanks (P194-P196, R454)	40 CFR 63 Subpart S 40 CFR 60 Subpart BB (P196 only)	R441 R480	Steam Stripper No. 5 or No. 6 Recovery Furnace Backup NCG Incinerator
R441	No. 1 Steam Stripper	40 CFR 60 Subpart BB 40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
R500	No. 2 Steam Stripper	40 CFR 60 Subpart BB 40 CFR 63 Subpart S	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
PG01	Nos. 1-19 Batch Digesters (P101-108, P141-151)	40 CFR 52.21 40 CFR 63 Subpart S 391-3-1-.02(2)(gg) 40 CFR 60 Subpart BB (P150, P151)	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
RG10	Evaporator Group (R425, R438, R495)	40 CFR 52.21 40 CFR 63 Subpart S 391-3-1-.02(2)(gg) 40 CFR 60 Subpart BB (R438 and R495 only)	R401 R407 R480	No. 5 Recovery Furnace No. 6 Recovery Furnace Backup NCG Incinerator
BG08	No. 4 Bleach Plant	40 CFR 52.21 40 CFR 63 Subpart S Georgia Air Toxics	BPS4	No. 4 Bleach Plant Scrubber
BG03	Bleach Plant 2 nd Stage Washers (not routed to scrubber (B246 & B248))	Georgia Air Toxics	None	None
BG07	Bleach Plant 2 nd & 4 th Stage Towers (B242-B245, B247, B249)	Georgia Air Toxics	None	None
B250	SVP-Lite Generator	Georgia Air Toxics	BPS2	SVP-Lite Tail Gas Scrubber
B261	No. 1 Methanol Storage Tank	40 CFR 60 Subpart Kb	None	None
LG08	Causticizers (L552-L555, L556)	40 CFR 52.21	None	None
LG09	East and West Lime Slakers (L511 and L514)	40 CFR 52.21 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	LSSE LSSW	East West Lime Slaker Scrubber
L517	Grits Washer	None*	None	None
MG10	Nos. 3, 4 & 5 Paper Machines & associated equipment (M601, M609, M625, M627 – M630, M632 – M635, M648 – M652, M660, M663, M668 – M671)	40 CFR 52.21	None	None
U703	Bark Transfer Cyclone	40 CFR 52.21 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	None	None
PC01	Petroleum Coke Grinding Operations	40 CFR 52.21 391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(g)	BIN1 BIN2 BIN3	Pet Coke Baghouse Grinding Baghouse Storage Silo Bin Vent
L540	West Lime Storage Silo	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	LBH2	West Lime Silo Baghouse
L541	East Lime Storage Silo	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	LBH1	East Lime Silo Baghouse
O900	Aerated Stabilization Basin	391-3-1-.02(2)(a)(10)	None	None

Emission Units		Applicable Requirements/Standards	Air Pollution Control Devices	
ID No.	Description		ID No.	Description
WY01	Woodyard Equipment (W001 – W086) – Chip Thickness Screening System - W090	391-3-1-.02(2)(n)	None	None
OG01	Wastewater Treatment System (O900, O908, O912, O913, O922, O923 & O924)	None*	None	None
LG06	Misc. Fugitive Recaust. Sources (L500-L509, L517-L536, L542-L554)	391-3-1-.02(2)(n)	None	None
LG10	Lime Handling System (555I – 557I)	391-3-1-.02(2)(n)	None	None
LG11	Lime Mud Filters (North and South) (L542 & L543)	391-3-1-.02(2)(n)	None	None
P199	Hardwood Soap Recovery Tank	None*	None	None
RG04	No. 6 Recovery Furnace Tanks (R409, R410, R411)	None*	None	None
RG05	Heavy Black Liquor Tanks (R425, R427, R429, & R430)	None*	None	None
RG07	Weak Black Liquor Storage Tanks (P207, R412, R413, R416, R417, R431, R433 & R435)	None*	None	None
RG08	Intermediate Black Liquor Storage Tanks (R418, R419, R420, R422 & R423)	None*	None	None
RG06	No. 5 Recovery Furnace Tanks (R404 & R405)	None*	None	None
PG15	Hardwood and Softwood Brownstock Chests (110V, 111V, 112V, P122, P138, P192, P206)	None*	None	None
BG05	Bleached Pulp Hi-Density Storage Units (B251-B257)	None*	None	None
B258	Alkaline Sewer Stack (Caustic scrubber)	None*	None	None
B259	Acid Sewer	None*	None	None
PG32	Knotters System (P234 – P238)	40 CFR 60 Subpart BBa 40 CFR 63 Subpart S	R401 R407	No. 5 Recovery Furnace No. 6 Recovery Furnace
PG33	Screens System (P239 – P242)	40 CFR 63 Subpart S	R401 R407	No. 5 Recovery Furnace No. 6 Recovery Furnace
PG34	Foam and Filtrate Tanks (P243 – P248)	40 CFR 60 Subpart BBa 40 CFR 63 Subpart S	R401 R407	No. 5 Recovery Furnace No. 6 Recovery Furnace
P207	Knot Tank	40 CFR 63 Subpart S	None	None
ROAD	Roads	391-3-1-.02(2)(n)	None	None

* Generally applicable requirements contained in this permit may also apply to emission units listed above. The lists of applicable requirements/standards are intended as a compliance tool and may not be definitive.

** Per Application No. 607947, the bold equipment is new and will go into effect upon startup. The crossed-through equipment will be shut down and removed after the new equipment is brought into service.

The following revisions were made to Table 3.1:

- Addition of No. 4 Bleach Plant Eop Tower and Washer (B280-B282) under new ID No. BG06.
- Revision of the Evaporator Group (RG10) to accurately depict emission sources included in this group.
- Removal of the Bleach Plant 2nd Stage Washers (BG03) and the Bleach Plant 2nd and 4th Stage Towers (BG07) – These units have been permanently shut down.
- Removal of the Petroleum Coke Grinding Operations (PC01) and associated control devices – This equipment was part of the Mill optimization project and was never built.
- Removal of the No. 6 Lime Kiln (L560) and associated control devices – This equipment was part of the Mill optimization project and was never built.
- Revision of “East and West Lime Slakers (L511 and L561)” to “East and West Lime Slakers (L511 and L514)”; revision of control device ID Nos. to “LSSE and LSSW” – Permit Amendment No. 2631-127-0003-V-04-6 authorized the replacement of the existing Lime Slaker (L514) with a new Lime Slaker (L561), including a dedicated set of causticizers (L556) and a dedicated scrubber (LSS3). The Mill did not implement this project.
- Removal of the Lime Handling System (555I – 557I) – These units are part of the lime storage system and the emissions are controlled by the East and West Lime Storage Silo Baghouses (LBH1 and LBH2).
- Removal of the Miscellaneous Fugitive Reausticizers Sources (LG06) and the Lime Mud Filters (LG11) – There are no organic HAP/VOC emissions from these units. They have been moved to the insignificant activities checklist under Attachment B.
- Removal of the Hardwood Soap Recovery Tank (P199); Addition of P199 to list of tanks under the Weak Black Liquor Storage Tanks group. – This unit is listed with the Weak Black Liquor Storage Tanks (RG07) in the emission calculations as part of this renewal application.
- Removal of the Alkaline Sewer Stack (B258) and Acid Sewer (B259) – These units are not sources of any regulated pollutants.
- Addition of Grits Washer (L517) as an emission unit – TRS potential emissions are greater than 5 tpy.
- Addition of facility roads (ROAD) as an emission unit – The renewal application calculations included paved roads.

Other Notes:

The Mill noted in the permit application that the following projects have not yet started:

Application No. 16576: Installation of a new No. 6 Lime Kiln (L560) and associated electrostatic precipitator (LEP2) to control PM emissions, followed by a scrubber (LKS2) to control TRS emissions.

Application No. 60907: Replacement of the existing Brownstock Washer Systems (PG27 and PG28) with a new Brownstock Washer System (PG30).

- Existing Brownstock Washer Lines (PG27 and PG28), along with the associated seal tanks and foam tanks, Knotters System (PG20 and PG21), Deckers (PG23), Screens and associated Reject Tanks (P131, P133, P134, P184, P186, and P189), unbleached Brown Stock High Density Storage Tanks (P123, P169, and P170), pre-washer Standpipe (P220), pre-Oxygen Delignification Washer (P221), and pre-Oxygen Delignification Washer Filtrate Tank (P222) will be permanently retired from operation after the new Brownstock Washer System is installed and reliably operating.

Application No. 20887: Modifications to the Nos. 5 and 6 Recovery Furnaces (R401 and R407) and associated electrostatic precipitators (REP5 and REP6) in order to reach a future potential capacity of 4.32 and 6.48 million pounds of black liquor solids per day (BLS/day), respectively, on a continuous basis. – *Modifications to the No. 6 Recovery Furnace and associated ESP were completed in March 2018. Modifications to the No. 5 Recovery Furnace and associated ESP have not yet started.*

- Replacement of the existing No. 6 Smelt Dissolving scrubber (RSS6) with a new scrubber.
- Modifications to the Wastewater Treatment System (OG01) – *Partial modifications to the Wastewater Treatment System were completed in August 2011. The modifications to the Aerated Stabilization Basin (ASB) and relocation of aerators have not yet started.*

B. Equipment & Rule Applicability

NSPS Subpart A – General Provisions

All regulated sources are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. This subpart requires initial notification and performance testing, recordkeeping, and monitoring and provides reference methods and mandates general control device requirements for all other subparts as applicable.

NSPS Subpart Db – Industrial-Commercial-Institutional Steam Generating Units

This subpart provides standards of performance for steam generating units with capacities greater than 100 MMBtu/hr for which construction, modification, or reconstruction commenced after June 19, 1984. The Nos. 6 and 7 Power Boilers and the No. 6 Recovery Furnace (U706, U707, and R407) each have a heat input rating greater than 100 MMBtu/hr were constructed in 1999, 2003, and 1989, respectively. Therefore, these units are subject to Subpart Db. The fuel oil burned in these units is limited to very low sulfur oil as defined in 40 CFR 60.41b. The Mill is therefore exempt from compliance testing or monitoring for SO₂ emissions as described in 40 CFR §60.45b(j) and §60.47b(f), respectively, as long as fuel records are kept as described in 40 CFR §60.49b(r).

The No. 6 Recovery Furnace is subject to a federally enforceable requirement limiting operation to an annual capacity factor of 10 percent for fossil fuels. Therefore, the NO_x emission standards in NSPS Subpart Db are not applicable per 40 CFR §60.44b(c). The Nos. 6 and 7 Power Boilers are subject to the NO_x emission standard of 0.10 lb/MMBtu when burning natural gas or fuel oil per 40 CFR §66.44b(a)(1)(i).

The No. 6 Recovery Furnace became subject to NSPS Subpart BB with initial construction in 1989. Per §60.40b(1) of Subpart Db, affected facilities meeting the applicability requirements of Subpart BB are subject to the PM standards under Subpart BB. As such, the No. 6 Recovery Furnace is not subject to the PM standard in NSPS Subpart Db. The Nos. 6 and 7 Power Boilers are subject to the PM emission standard of 0.10 lb/MMBtu when burning fuel oil per 40 CFR §66.43b(b).

The No. 4 Power Boiler (U700) and the No. 5 Recovery Furnace (R401) each were constructed prior to 1984 and have not been modified or reconstructed as defined in the NSPS rules since originally constructed. Therefore, neither is subject to NSPS Subpart Db.

NSPS Subpart Kb – Storage Tanks

This subpart regulates storage vessels with a capacity greater than 75 cubic meters (m³) (19,813 gallons) that are used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. Subpart Kb specifies that process tanks are not considered storage tanks and defines a process tank as:

...a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw materials.

For any storage vessels that do not fall under the process vessel category, the following storage vessels are specifically exempted from NSPS Kb:

- Storage vessels with a capacity less than 75 cubic meters (m³) (19,813 gallons),
- Storage vessels with a capacity less than 151 m³ (39,890 gallons) and greater than 75 m³ (19,813 gallons) with a maximum true vapor pressure less than 15.0 kilopascal (kPa; equivalent to 2.18 pounds per square inch (psia)), and
- Storage vessels with a capacity greater than 151 m³ (39,890 gallons) with a maximum true vapor pressure less than 3.5 kPa (equivalent to 0.51 psia)

The Brunswick Mill has storage vessels with a capacity greater than 75 m³ that are not considered process tanks. These tanks, the materials they store, and the applicability of NSPS Subpart Kb is provided in the table below.

Storage Vessel Contents	Maximum True Vapor Pressure (kPa)	Subject to NSPS Subpart Kb?
Methanol	31.05	Yes – Vapor pressure ≥ 3.5 kPa
No. 2 Fuel Oil	0.11	No – Vapor pressure ≤ 3.5 kPa
No. 6 Fuel Oil	0.00062	No – Vapor pressure ≤ 3.5 kPa
Tall Oil	0.362	No – Vapor pressure ≤ 3.5 kPa
Turpentine	<1.2	No – Vapor pressure ≤ 3.5 kPa

The No. 1 Methanol Storage Tank (B261) associated with the Chlorine Dioxide (ClO₂) Generation Plants (B237 and B250) has a capacity of 39,496 gallons. Due to the size of the No. 1 Methanol Storage Tank and the maximum true vapor pressure of methanol, the tank is only subject to the monitoring requirements of 40 CFR §60.116b (*i.e.*, not subject to any emissions limitations or control requirements). No other storage vessels at the Mill are subject to any requirements of NSPS Subpart Kb.

NSPS Subpart BB and BBa – Kraft Pulp Mills

NSPS Subpart BB contains TRS and particulate matter limitations for certain process equipment (“affected facilities”) constructed, reconstructed, or modified at Kraft pulp mills after September 24, 1976. This equipment includes the digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. The listed affected facilities that were constructed or modified at the Brunswick Mill after September 24, 1976 and subject to Subpart BB include two batch Digesters (P150 & P151) and associated Digester Blow Tank (P196); the MEE system (R438 and R495 only), including associated the No. 2 Concentrator (R484) and a condensate stripper system consisting of Nos. 1 and 2 Steam Strippers (R441 and R500); the No. 6 Recovery Furnace (R407); and the No. 5 Lime Kiln (L537).

The No. 5 Recovery Furnace (R401) was originally constructed prior to September 24, 1976, the applicability date of Subpart BB, and has not been modified or reconstructed as defined in the NSPS rules since originally constructed. Therefore it is not subject to NSPS Subpart BB.

On April 4, 2014, EPA promulgated the NSPS Subpart BBa standards with a number of changes to the original Subpart BB rule. The NSPS Subpart BBa provisions apply when the affected facilities in Kraft pulp mills commence construction, reconstruction or modification after May 23, 2013. The Nos. 5 and 6 Smelt Dissolving Tanks (R403 and R408) were replaced in May 2018 and October 2021, respectively, and are therefore subject to the requirements of NSPS Subpart BBa.

The Nos. 20-23 batch Digesters (P230-P233), the Brownstock Washer System (PG30), and the No. 6 Lime Kiln (L560), when constructed, will be subject to Subpart BBa as well.

The new Brownstock Washer System (PG30), including the associated new Knotters System (PG32) and new Filtrate Tanks (PG34), is an “affected facility” under NSPS Subpart BBa, is a source of TRS emissions, and will be constructed after May 23, 2013. Therefore, these sources will be subject to NSPS Subpart BBa. The Brunswick Mill will comply with the NSPS Subpart BBa requirements contained in 40 CFR 60.283a for the proposed new Brownstock Washer System and associated new Knotters System and new Filtrate Tanks by collecting emissions as part of the existing HVLC NCG system and directing them to the Nos. 5 and 6 Recovery Furnaces for destruction according to 40 CFR 60.283a(a)(1)(iii). In addition, the Brunswick Mill will maintain a minimum temperature of 1,200°F for a retention time of at least 0.5 second in the Nos. 5 and 6 Recovery Furnaces while burning HVLC NCGs per 40 CFR 60.283a(a)(1)(iii).

The new Screens System (PG33) and new Foam Tanks (PG34) are not affected facilities under NSPS Subpart BBa and therefore these sources are not subject to this regulation. However, as a part of the proposed new Brownstock Washer System design, the emissions from the new Screens

System and new Foam Tanks will be collected as part of the existing HVLC NCG system and combusted in the Nos. 5 and 6 Recovery Furnaces.

The new Knot Tank (P207) and the existing modified unbleached Brown Stock High Density Storage Tank (P122) are not affected facilities under NSPS Subpart BBa and therefore these sources are not subject to this regulation

NSPS Subpart IIII/JJJJ – Stationary Compression/Spark Ignition Internal Combustion Engines

NSPS Subpart IIII provides performance standards for diesel stationary compression ignition (CI) engines, including emergency engines, that commence reconstruction or modification after the proposal date of July 11, 2005, or construction of a new engine after April 1, 2006. Subpart IIII provides performance standards for both engine manufacturers and operators. Engine operators must meet the specified emission standards and fuel type specifications.

The Brunswick Mill operates five stationary engines that are potentially subject to these regulations. The engines, construction dates, and NSPS Subpart IIII applicability of all engines in service at the Brunswick Mill are summarized in the table below. The relevant provisions of NSPS Subpart IIII are incorporated into the current Title V permit.

NSPS Subpart JJJJ provides performance standards for spark ignition (SI) engines, including emergency engines, that commence reconstruction or modification after the proposal date of June 12, 2006, or construction of a new engine after July 1, 2007. The rule provides performance standards for both engine manufacturers and operators. Engine operators must meet the specified emission standards and fuel type specifications. The Mill does not operate any stationary spark ignition engines. Therefore, this subpart does not apply.

Source Code	Description	Type	Fuel Fired	Engine Rating (hp)	Emergency Engine	Date of Construction	NSPS IIII/JJJJ Applicability
E001	North Diesel Fire Pump	CI	Diesel	192	Yes	2011	NSPS IIII
E002	South Diesel Fire Pump	CI	Diesel	172	Yes	1983	n/a
E003	Lime Kiln Auxiliary Drive	CI	Diesel	90	Yes	1985	n/a
E004	Turbine Room Generator	CI	Diesel	250	Yes	1987	n/a
E005	Scale House Generator	CI	Diesel	16	Yes	1987	n/a

40 CFR 61 Subpart A – General Provisions

Subpart A of 40 CFR 61 provides the general provisions for which each source subject to another Part 61 subpart must comply with unless specifically excluded by the applicable subpart. These provisions include initial notification and performance testing, recordkeeping, and monitoring requirements for all other subparts as applicable. Because a Part 61 subpart applies to the facility, the provisions of Subpart A also apply as specified in that subpart.

40 CFR 61 Subpart E – Mercury

This subpart limits mercury emissions from several operations, including incineration of wastewater treatment plant sludge. The Mill is permitted to burn sludge from its primary clarification system in the No. 4 Power Boiler (U700). As a result, even though this material is burned for energy recovery rather than being incinerated for waste disposal, this subpart has been previously deemed by Georgia EPD to be applicable to this Boiler at the Mill. The applicable requirements of Subpart E have been incorporated into the current Title V permit.

40 CFR 61 Subpart M – Asbestos

This subpart applies to various industrial facilities that handle, process, or manufacture asbestos. The Brunswick Mill does not process or manufacture asbestos containing materials. However, there are asbestos-containing materials potentially present on the site (such as floor tile and insulation). When the Mill engages in demolition or renovation activities involving asbestos, 40 CFR §61.145 (the standard for demolition and renovation) applies.

40 CFR 63 Subpart A – General Provisions

All affected sources subject to a source-specific subpart under 40 CFR Part 63 are subject to the general provisions of Subpart A unless specifically excluded by the source-specific NESHAP. Subpart A requires initial notification and performance testing, recordkeeping, monitoring, provides reference methods, and mandates general control device requirements for all other subparts as applicable. Because various other Part 63 subparts are applicable, the provisions of Subpart A also apply to the Brunswick Mill.

40 CFR 63 Subpart S – Pulp MACT I and Paper MACT III Cluster Rule

This subpart requires that various pulping process air emissions and Kraft pulping process condensates be collected and controlled/treated at pulp mills that are major sources of HAP emissions. The “affected source” for purposes of Subpart S is the total of all HAP emission points in the pulping and bleaching systems. The Brunswick Mill is a major source of HAP emissions, and therefore, is subject to the requirements of NESHAP Subpart S. The emission units subject to Subpart S include the No. 4 Bleach Plant (BG08) and the Pulping System.

The Pulping System includes Nos. 1-19 Batch Digesters (PG01); the Digester Blow Tanks (PG31); the Knotters System (PG20 and PG21); the two Brownstock Washing Systems (PG27 and PG28); the two-stage Oxygen Delignification System (PG35); the Deckers (PG23); the Turpentine Recovery System (PG25); and the MEE system (RG10), including the No. 2 Concentrator (R484), the condensate steam stripper system, consisting of the Nos. 1 and 2 Steam Strippers (R441 and R500), the Methanol Rectification system (R489), and the Rectified Methanol Storage Tank (R490).

The facility complies with the NESHAP Subpart S requirements contained in 40 CFR §63.443 for the Batch Digesters and associated Blow Tanks, the Turpentine Recovery System, and the MEE system by collecting emissions as part of the LVHC NCG system and directing them to the Nos. 5 and 6 Recovery Furnaces (primary) or the Backup NCG Incinerator (secondary) as the required control device(s) according to 40 CFR §63.443(d).

The facility complies with the NESHAP Subpart S requirements contained in 40 CFR §63.443 for the two Brownstock Washing Systems and the two-stage Oxygen Delignification System by collecting emissions as part of the HVLC NCG system and directing them to the Nos. 5 and 6 Recovery Furnaces (primary) or the Backup NCG Incinerator (secondary) as the required control device(s) according to 40 CFR §63.443(d).

The Knotters System and the Deckers in the brownstock washing system are not collected because the Knotters were found to emit less than 0.1 lb/ton of HAP and the Deckers use process water with a total HAP concentration less than 400 ppm, which are the thresholds stated in 40 CFR §63.443(a)(1)(ii)(A) and (iv)(b) as not being required to be treated.

The facility complies with standards for the bleaching system outlined in 40 CFR §63.446 by achieving the No. 4 Bleach Plant Scrubber (BPS4) outlet concentration of 10 ppm or less by volume of total chlorinated HAP.

The facility complies with the pulping process condensate collection requirements outlined in 40 CFR §63.446 using the mass collection option and collecting the regulated condensates that contain a mass of 11.1 pounds or more of total HAPs per oven-dried ton of pulp (ODTP). In addition, the Brunswick Mill complies with the pulping process condensate treatment requirements in 40 CFR §63.446 by recycling the pulping process condensate to an equipment system specified in §63.443(a) and/or by treating the pulping process condensates to remove 10.2 pounds or more of total HAP per ton of ODTP.

When EPA promulgated NESHAP Subpart S, it expressly considered HAP emissions from paper machines and “papermaking systems” and determined not to include these processes within the Subpart S affected source because of the absence of controls for papermaking systems at the floor-level sources, the lack of feasible control options to control HAPs in pulp stock and whitewater, and the low HAP content of papermaking additives. EPA reaffirmed this conclusion in the 2012 Residual Risk and Technology Review (RTR) revisions. Therefore, papermaking systems, which includes pulp dryers, are not currently subject to any emission standards or work practices under NESHAP Subpart S or any other NESHAP.

The Nos. 20-23 batch Digesters (P230-P233) and the Brownstock Washer System (PG30), when constructed, will comply with the applicable NESHAP Subpart S requirements.

40 CFR 63 Subpart MM – Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills (MACT II)

This subpart establishes limits on HAP emissions from chemical recovery combustion sources at pulp mills that are major sources of HAP emissions. Specifically, Subpart MM established HAP limits for new or existing recovery furnaces, smelt dissolving tanks, and lime kilns. The Nos. 5 and 6 Recovery Furnaces (R401 and R407), No. 5 Smelt Dissolving Tanks (R403), and the No. 5 Lime Kiln (L537) are each subject to Subpart MM and comply with the individual standards for existing affected sources.

The No. 6 Smelt Dissolving Tank (R408) was replaced in May 2018. The new No. 6 Smelt Dissolving Tank continued to be classified as part of the existing affected source under Subpart MM as replacement of the No. 6 Smelt Dissolving Tank did not constitute a reconstruction as defined under 40 CFR §63.2. Furthermore, the new smelt dissolving tank was not installed as part of the installation of a new non direct contact evaporator (NDCE) recovery furnace. Therefore, the new No. 6 Smelt Dissolving Tank complies with the applicable standards for existing affected sources.

The No. 5 Smelt Dissolving Tank (R403) was replaced in October 2021. The new No. 5 Smelt Dissolving Tank was considered an existing source under Subpart MM and continues to comply with the applicable standards for existing affected sources.

Amendments to Subpart MM as part of EPA’s risk and technology (RTR) review were published in the Federal Register on October 11, 2017. Georgia EPD issued a permit amendment (V-06-3) for the incorporation of Subpart MM revisions.

The No. 6 Lime Kiln (L560), when constructed, will meet the requirements of the NESHAP Subpart MM.

40 CFR 63 Subpart RR – Individual Drain Systems

This subpart applies to the control of air emissions from individual drain systems for which another subpart references the use of this subpart. Subpart RR is applicable for Kraft condensate collection systems. Therefore, these provisions apply for the collection systems that are addressed in the Pulp and Paper NESHAP Rule, 40 CFR 63, Subpart S. The requirements of the Subpart RR are incorporated into the Brunswick Mill’s current Title V permit.

40 CFR 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

This subpart regulates HAP emissions from RICE located at major sources of HAP. As discussed previously, the Brunswick Mill operates five engines for various purposes at the Mill. All engines as listed in the table below are subject to this rule as it applies to both new and existing sources. The relevant provisions of NESHAP Subpart ZZZZ are incorporated into the current Title V permit.

Source Code	Description	Type	Fuel Fired	Engine Rating (hp)	Emergency Engine	Date of Construction	Subject to Subpart ZZZZ
E001	North Diesel Fire Pump	CI	Diesel	192	Yes	2011	Yes
E002	South Diesel Fire Pump	CI	Diesel	172	Yes	1983	Yes
E003	Lime Kiln Auxiliary Drive	CI	Diesel	90	Yes	1985	Yes
E004	Turbine Room Generator	CI	Diesel	250	Yes	1987	Yes
E005	Scale House Generator	CI	Diesel	16	Yes	1987	Yes

40 CFR 63 Subpart DDDDD – Boiler MACT

This subpart applies to boilers and process heaters located at major sources of HAP. The Nos. 5 and 6 Recovery Furnaces (R401 and R407) are subject to Subpart MM and therefore are not subject to Subpart DDDDD per 40 CFR §63.7481(b). The Nos. 6 and 7 Power Boilers (U706 and U707) are each categorized as an existing unit designed to burn gas 1. The No. 4 Power Boiler (U700) is categorized as an existing hybrid suspension/grate boiler designed to burn wet biomass/bio-based solid. The requirements of Subpart DDDDD are incorporated into the Mill’s current Title V permit.

The equipment listed in Table 3-1 is subject to the following Georgia rules:

Georgia Rule 391-3-1-.02(2)(b) – “Visible Emissions”

Georgia Rule 391-3-1-.02(2)(d) – “Fuel-Burning Equipment”

Georgia Rule 391-3-1-.02(2)I – “Particulate Emissions from Manufacturing Equipment”

Georgia Rule 391-3-1-.02(2)(g) – “Sulfur Dioxide”

Georgia Rule 391-3-1-.02(2)(n) – “Fugitive Emissions”

Georgia Rule 391-3-1-.02(2)(gg) – “Kraft Pulp Mills”

C. Permit Conditions

The following table lists the changes made to conditions that appear in Section 3.0 of Permit No. 2631-127-0003-V-07-0. All conditions unchanged were held over from the previous permit and subsequent amendments.

Permit Condition	Original Condition		Notes
	Number	Permit	
3.2.1 – 3.2.9	3.2.1 – 3.2.9	V-06-0	These are PSD avoidance limits for the Nos. 4, 6, and 7 Power Boilers (U700, U706, & U707). Condition 3.2.3 was split into two parts (a. and b.) to accommodate both SO ₂ limits for the No. 4 Power Boiler.
3.2.10 – 3.2.11	3.2.10 – 3.2.11	V-06-0	Condition 3.2.10 contains specific emissions and BACT limits for the No. 5 Recovery Furnace (R401). A modification of the No. 5 Recovery Boiler (R401) was authorized in Permit Amendment Number 2631-127-0003-V-04-6 on July 24, 2007 for the Brunswick Mill optimization project. The Mill did not modify this unit, therefore Paragraphs a.ii, b.ii, and c.-f. were removed. No changes to Condition 3.2.11, which limits the fuel consumption for the No. 5 Recovery Furnace (R401).
3.2.12	3.2.12	V-06-0 V-06-3	No change. This condition contains specific BACT limits for the No. 6 Recovery Furnace (R407).
3.2.13 – 3.2.14	3.2.13 – 3.2.14	V-06-0	No changes. These conditions require “very low sulfur oil” to be burned and limit fuel consumption in the No. 6 Recovery Furnace (R407), respectively.
3.2.15 – 3.2.16	3.2.15 – 3.2.16	V-06-0 V-06-4	These conditions contain specific emissions and BACT limits for the Nos. 5 and 6 Smelt Dissolving Tanks (R403 & R408). References to 40 CFR 60 Subpart BBa [60.282a(a)(3) and 60.282a(a)(4)] were added to Condition 3.2.16.a and c. Condition 3.2.28 of V-06-4 replaced Condition 3.2.15.
3.2.17	3.2.17	V-06-1	No change. This condition is a state only enforceable condition for the Bleach Plants (B250 & BG08). Emission limits are not to exceed the allowable rates as demonstrated by air dispersion modeling.
3.2.18	3.2.18	V-06-0	No change. This condition contains CO and VOC BACT limits for the No. 4 Bleach Plant (BG08).
--	3.2.19	V-06-0 V-06-3	Removed. This condition contained specific emission limits for the No. 6 Lime Kiln per modifications as described in Application No. 16576. These modifications have not been completed and the unit has not been constructed.
--	3.2.20	V-06-0	Removed. This condition limited filterable PM emissions (as CaO) from the No. 3 Lime Slaker (L561) per modifications as described in Application No. 16576. These modifications have not been completed and the unit has not been constructed.
3.2.19	3.2.21	V-06-0	No change. This is a BACT work practice condition for the Causticizer Area (L556, L557, & L558). Permit Amendment No. 2631-127-0003-V-04-6 authorized the replacement of existing Lime Slaker L514 with a new Lime Slaker L561. The Mill did not implement this project; therefore, references to the unconstructed equipment were removed.
3.2.20	3.2.22	V-06-0	No change. This is a BACT work practice condition for the Paper Machines (MG10),
--	3.2.23	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke in the No. 6. Lime Kiln.
--	3.2.24	V-06-0	Removed. This condition was redundant with Condition 3.2.3.
3.2.21	3.2.25	V-06-0	No change. This condition limits SO ₂ emissions from the Backup NCG Incinerator/Scrubber system (R480, RIS1).
--	3.2.26	V-06-3	Removed. The facility no longer uses fuel oil as a fuel for the Backup NCG Incinerator (R480).
3.2.22	3.2.27	V-06-0	This condition contains NO _x BACT limits for the Backup NCG Incinerator/Scrubber system (R480, RIS1). The modifications as described in Application 16576 have not yet been completed. The condition was revised to reflect current facility operations.

Permit Condition	Original Condition		Notes
	Number	Permit	
3.3.1	3.3.1	V-06-0	No change. This condition contains emissions limits for the No. 5 Lime Kiln.
3.3.2 – 3.3.7	3.3.2 – 3.3.7	V-06-0	No changes. These conditions contain emission limits for the Nos. 4, 6, and 7 Power Boilers (U700, U706, U707).
3.3.8 – 3.3.19	3.3.8 – 3.3.19	V-06-0	No changes. These conditions contain specific requirements under 40 CFR 63 Subpart S – Cluster Rule.
3.3.20	3.3.20	V-06-5	No change. This condition requires the facility to control HAP emissions from various HVLC systems. It was amended under V-06-5 to include the Oxygen Delignification System (PG35), the new Knotters System (PG32), new Screens System (PG33), and new Filtrate Tanks (PG34). Upon completion of the modification as described by Application No. 607947, the Hardwood and Softwood Washers (PG27 and PG28) will no longer be subject to this requirement.
3.3.21	3.3.21	V-06-0	No change. This condition requires the facility to comply with 40 CFR 60 Kb for the Methanol Storage Tank (B261).
3.3.22 – 3.3.30	3.3.22 – 3.3.30	V-06-0 V-06-3 V-06-5	These are general compliance conditions for various Subparts under 40 CFR Parts 60 and 63. Condition 3.3.30 was revised to remove reference to the No. 1 Recovery Furnace Concentrator (R483), which has been permanently shut down. The Evaporator Group (RG10), Hardwood and Softwood Knotters (PG20, PG21), and No. 5 Smelt Dissolving Tank (R403) were added to this condition. Condition 3.3.30 was also revised to remove the No. 6 Smelt Dissolving Tank (R408), which was replaced in May 2018 making it subject to Subpart BBa, and to remove the No. 6 Lime Kiln (L560) which has not been constructed. Condition 3.3.26 was revised to remove the reference to the No. 6 Lime Kiln (L560), which has not been constructed.
3.3.31	3.3.31	V-06-0	No change. This condition contains annual capacity requirements for oil and gas fired in the No. 6 Recovery Furnace (R407) per requirements of 40 CFR 60 Subpart Db.
3.3.32	3.3.32	V-06-0	No change. This condition requires the facility to comply with all applicable provisions of 40 CFR 63 Subpart DDDDD for the Nos. 4, 5, and 6 Power Boilers (U700, U706, U707).
--	3.3.33	V-06-0	Removed. The facility completed the initial tune-ups on the No. 4 Power Boiler (U700), the No. 6 Power Boiler (U706), and the No. 7 Power Boiler (U707) on October 15, 2015, December 1, 2015, and December 1, 2015, respectively. In addition, the Brunswick Mill has had a continuous energy management program that was implemented in 2009 and the program was compatible with ISO 50001.
3.3.33	3.3.34	V-06-0	This condition requires a tune-up of Boilers 4, 6, and 7 (U700, U706, U707) once every 5 years per 40 CFR 63 Subpart DDDDD. Reference to the initial compliance date was removed.
3.3.34	3.3.35	V-06-5	No change. This condition includes general requirements of applicability for 40 CFR 60 Subpart BBa for the Brownstock Washer System (PG30), Knotters Systems (PG32), Screens System (PG33), and the Foam and Filtrate Tanks (PG34).
3.3.35 – 3.3.36	3.3.36 – 3.3.37	V-06-5	No changes. These conditions outline the emission requirements for the modifications as proposed in Application No. 607947.
3.3.37	3.3.38	V-06-5	No change. This condition incorporates all requirements for affirmative defense.
3.4.1 – 3.4.3	3.4.1 – 3.4.3	V-06-0	These conditions contain specific emission limits for the Nos. 5 and 6 Lime Kilns (L537, L560). The reference to the No. 6 Lime Kiln was removed as this unit has not been constructed.
--	3.4.4	V-06-0	Removed. The No. 6 Lime Kiln has not been constructed.
--	3.4.5	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke in the No. 6 Lime Kiln.
3.4.4 – 3.4.5	3.4.6 – 3.4.7	V-06-0	These conditions contain opacity and PM limits for the Lime Storage Silos and Handling Systems. Paragraph c of Condition 3.4.5 was removed because it is not relevant -- emissions are controlled by baghouses LBH1 and LBH2. Paragraph d was renumbered to 'c'.
3.4.6 – 3.4.8	3.4.8 – 3.4.10	V-06-0	No changes. These conditions contain specific emission limits for the No. 4 Power Boiler (U700).

Permit Condition	Original Condition		Notes
	Number	Permit	
3.4.9 – 3.4.12	3.4.11 – 3.4.14	V-06-0	No changes. These conditions contain specific emission limits for the Nos. 5 and 6 Recovery Furnaces (R401, R407).
3.4.13 – 3.4.14	3.4.15 – 3.4.16	V-06-0	No changes. These conditions contain specific emission limits for the Nos. 5 and 6 Smelt Dissolving Tanks (R403, R408)
3.4.15	3.4.17	V-06-0	No change. This condition only allows TRS emissions from the digesters and evaporators (RG10, PG01) if gases are combusted in the Nos. 5 and 6 Recovery Furnaces (R403, R408) or Backup NCG Incinerator (R480).
3.4.16 – 3.4.17	3.4.18 – 3.4.19	V-06-0	No changes. These conditions limit opacity and PM emissions from the slakers (LG09).
3.4.18 – 3.4.19	3.4.20 – 3.4.21	V-06-0	No changes. These conditions limit opacity and PM emissions from the Bark Transfer System Cyclone (U703).
--	3.4.22 – 3.4.24	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke in the No. 6. Lime Kiln.
3.4.20 – 3.4.21	3.4.25 – 3.4.26	V-06-0	No changes. These conditions contain specific emission limits for the woodyard (WY01).
3.4.22 – 3.4.25	3.4.27 – 3.4.30	V-06-0	No changes. These conditions contain specific requirements for the Backup NCG Incinerator/Scrubber System (R480, RIS1).
3.5.1	3.5.1	V-06-0	No change. This condition requires the facility to use a defoamer additive system on the aerated stabilization basin (O900).

IV. Testing Requirements (with Associated Record Keeping and Reporting)

A. General Testing Requirements

The permit includes a requirement that the Permittee conduct performance testing on any specified emission unit when directed by the Division. Additionally, a written notification of any performance test(s) is required 30 days (or sixty (60) days for tests required by 40 CFR Part 63) prior to the date of the test(s) and a test plan is required to be submitted with the test notification. Test methods and procedures for determining compliance with applicable emission limitations are listed and test results are required to be submitted to the Division within 60 days of completion of the testing.

B. Specific Testing Requirements

The following table lists the changes made to conditions that appear in Section 4.2 of Permit No. 2631-127-0003-V-07-0. All conditions unchanged were held over from the previous permit and subsequent amendments.

Permit Condition	Original Condition		Notes
	Number	Permit	
4.1.3.dd	4.1.4.dd	V-06-0	This condition was revised to remove Lime Kiln No. 6 (L560), as this unit has not been constructed.
4.2.1	4.2.1	V-06-0	This condition requires specific performance tests for the listed emission units. The reference to the No. 6 Lime Kiln (L560) was removed. This unit has not been constructed.
4.2.2	4.2.2	V-06-0	This condition requires specific performance tests for the listed emission units. The reference to the No. 6 Lime Kiln (L560) was removed as well as the note below the table. The referenced modifications have not been complete and L560 has not been constructed.
4.2.3 – 4.2.6	4.2.3 – 4.2.6	V-06-0 V-06-3	These are 40 CFR 63 Subpart MM testing requirements. Condition 4.2.5 was revised to include updated changes to Subpart MM under Permit V-06-3.

Permit Condition	Original Condition		Notes
	Number	Permit	
--	4.2.7	V-06-0	Removed. The No. 6 Lime Kiln has not been constructed.
--	4.2.8	V-06-0	Removed. A modification of the No. 5 Recovery Boiler (R401) was authorized in Permit amendment Number 2631-127-0003-V-04-6 on July 24, 2007 for the Brunswick Mill optimization project. The Mill did not modify this unit.
--	4.2.9	V-06-0	Removed. This condition references the No. 3 Lime Slaker (L561) per modifications as described in Application No. 16576. These modifications have not been completed and the unit has not been constructed.
4.2.7	4.2.10	V-06-0	The mill currently operates under the approved 2004 Alternative Monitoring Request, specifying scrubbant supply pressure as the monitoring condition. However, the mill plans on establishing a fan amperage limit during the next compliance test in 2023. This condition was revised to reflect current operations.
--	4.2.11	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke.
--	4.2.12	V-06-4	Removed. This condition required the facility to comply with the performance testing requirements per 40 CFR 60 Subpart BBa for the No. 5 Smelt Dissolving Tank (R403). The test has been conducted and notification submitted in December 2021.

V. Monitoring Requirements

A. General Monitoring Requirements

Condition 5.1.1 requires that all continuous monitoring systems required by the Division be operated continuously except during monitoring system breakdowns and repairs. Monitoring system response during quality assurance activities is required to be measured and recorded. Maintenance or repair is required to be conducted in an expeditious manner.

B. Specific Monitoring Requirements

The following table lists the changes made to conditions that appear in Section 5.2 of Permit No. 2631-127-0003-V-07-0. All conditions unchanged were held over from the previous permit and subsequent amendments.

Permit Condition	Original Condition		Notes
	Number	Permit	
5.2.1	5.2.1	V-06-0 V-06-5	This condition lists monitoring requirements for specific equipment. Condition 5.2.c.i was revised under V-06-5 to include applicable references for the excess emissions of TRS from the No. 6 Recovery Furnace. Paragraph e.ii. was removed and paragraph i. was consolidated back into e. A modification of the No. 5 Recovery Boiler (R401) was authorized in Permit amendment Number 2631-127-0003-V-04-6 on July 24, 2007 for the Brunswick Mill optimization project. The Mill did not modify this unit. Paragraph g. was removed. The No. 6 Lime Kiln (L560) has not been constructed.

Permit Condition	Original Condition		Notes
	Number	Permit	
5.2.2	5.2.2	V-06-0 V-06-3	This condition contains parameters to be continuously monitored on specific equipment. It was revised under Permit V-06-3 to include updates for Subpart MM. In October 2019 the facility submitted a notification to EPD requesting alternative monitoring methods for measuring compliance with scrubber parameters on RSS6. Paragraph c.iii. was revised to include this change. Paragraphs d.i. through d.iv were removed. The modifications described in Application No. 16576 have not been completed and the No. 6 Lime Kiln has not been constructed. Subsequent paragraphs were renumbered. Paragraph c. was revised to include an alternative monitoring request per Subpart MM for fan amperage.
5.2.3	5.2.3	V-06-0 V-06-2 V-06-3	This condition contains parameters to be monitored on specific equipment. Paragraph e. was removed under Permit V-06-2. Condition 5.2.3 was revised under Permit V-06-3 to include updates for Subpart MM. Paragraph h. was removed as the facility no longer plans to burn petroleum coke. Paragraphs f., g., and i. were renumbered to e., f., and g., respectively. Paragraphs a.ii and new paragraph g. were removed as the referenced modifications have not been completed. References to the No. 6 Lime Kiln (L560) were also removed since this unit has not been constructed. Paragraph c. was removed as the No. 4 Power Boiler is subject to 40 CFR 63 Subpart DDDDD and ESP monitoring is no longer required. Paragraph e. (renumbered to d.) was revised to include language to allow the Mill to remain in compliance with the permit in the event that a monitoring parameter is reset to a different value based upon subsequent stack tests.
5.2.4 – 5.2.6	5.2.4 – 5.2.6	V-06-0	No changes. These are specific requirements per 40 CFR 63 Subpart S.
5.2.7 – 5.2.8	5.2.7 – 5.2.8	V-06-0	No changes. These conditions require the facility to inspect the Bark Transfer Cyclone (U703) daily for opacity and any holes or evidence of malfunction and record anything abnormal.
--	5.2.9	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke.
--	5.2.10	V-06-0	Removed. The No. 4 Power Boiler (U700) is no longer subject to CAM.
--	5.2.11	V-06-0	Removed. The No. 5 Lime Kiln (L537) is no longer subject to CAM.
--	5.2.12	V-06-0	Removed. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke. The No. 6 Lime Kiln (L560) is no longer subject to CAM for SO ₂ .
5.2.10	5.2.13	V-06-0	No change. This condition lists specific CAM requirements for the Backup NCG Incinerator (R480) for SO ₂ emissions.
5.2.9	5.2.14	V-06-0	This condition lists pollutant specific equipment subject to CAM requirements per 40 CFR 64. The Petroleum Coke Grinding Operations (PC01) was part of the Mill optimization project; however, the equipment was never built. The facility no longer plans to burn petroleum coke. The No. 6 Lime Kiln (L560) is no longer subject to CAM for SO ₂ and was removed from this list. The No. 4 Power Boiler (U700) and No. 5 Lime Kiln (L537) are also no longer subject to CAM and have been removed from this list.

C. Compliance Assurance Monitoring (CAM)

The following pollutant-specific emission unit is required to have a CAM plan:

- Backup NCG Incinerator (R480) for SO₂ emissions controlled by the Wet Scrubber (RIS1)

Per Application No. 482579, the facility proposes the removal of CAM for the following pollutant-specific emission units:

- No. 4 Power Boiler (U700) for PM emissions controlled by the ESP (UEP4); and
- No. 5 Lime Kiln (L537) for SO₂ emissions controlled by the Venturi Scrubber (LKS1)

According to 40 CFR 64.4(b)(4), "presumptively acceptable monitoring" includes monitoring for standards that are exempt from CAM pursuant to 40 CFR §64.2(b)(1)(i). The No. 4 Power Boiler is subject to the Boiler MACT standards and limitations, which were proposed by the U.S. EPA after November 15, 1990 pursuant to Section 112 of the Federal Clean Air Act. Therefore, presumptively acceptable monitoring exists, and a CAM plan for the No. 4 Power Boiler PM emissions is not required.

The No. 5 Lime Kiln is not subject to any emission limit or standard for SO₂ and does not meet the CAM applicability criteria listed under 40 CFR 64.2(1)(1), "*The unit is subject to an emission limitation or standard for the applicable regulated air pollutant*". Therefore, a CAM plan for the No. 5 Lime Kiln SO₂ emissions is not required.

VI. Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all information related to deviations from the applicable requirements. Records, including identification of any excess emissions, exceedances, or excursions from the applicable monitoring triggers, the cause of such occurrence, and the corrective action taken, are required to be kept by the Permittee and reporting is required on a semiannual basis.

B. Specific Record Keeping and Reporting Requirements

The following table lists the changes made to conditions that appear in Section 6.0 of Permit No. 2631-127-0003-V-07-0. All conditions unchanged were held over from the previous permit and subsequent amendments.

Permit Condition	Original Condition		Notes
	Number	Permit	
6.1.1 – 6.1.6	61.1 – 6.1.6	V-06-0	No changes. These are general recordkeeping requirements.
6.1.7.a.i. – iv.	6.1.7.a.i – iv.	V-06-0 V-06-3 V-06-5	These are specific excess emissions to be reported per the requirements of Condition 6.1.4. The compliance date in Paragraph a.iii.(B) was removed as it has already passed. Condition 6.1.7.a.i.(B) was revised under V-06-5 to include applicable references for the excess emissions of TRS from the No. 6 Recovery Furnace. Condition 6.1.7.a.i.(J) was also added under V-06-5 to requiring the facility to report excess emissions when the No. 5 Recovery Furnace is not being used for the Brownstock Washer System. Condition 6.1.7.a.iv.(B) was revised to include clarification for the total process operating time. Condition 6.1.7.a.i was revised to remove paragraph (F) as the modifications referenced in Application No. 16576 have not been completed. Subsequent paragraphs were renumbered.
--	6.1.7.a.v.	V-06-0 V-06-3	Removed. The referenced modifications have not been completed.

Permit Condition	Original Condition		Notes
	Number	Permit	
6.1.7.b.i. – vi.	6.1.7.b.i. – vii.	V-06-0 V-06-3	These are specific exceedances to be reported per the requirements of Condition 6.1.4. Conditions 6.1.7.b.i.(A) and (B) were revised to include clarification for the total process operating time. Conditions 6.1.7.b.v.(H) through (J) and Condition 6.1.7.b.vii were removed. The modifications described in Application No. 16576 have not been completed. Subsequent paragraphs were renumbered. Condition 6.1.7.b.i.(B) was revised to include language consistent with the collection condition in (A), as it is all predicated upon the same equipment operations. Condition 6.1.7.b.v was revised to include language to allow the Mill to remain in compliance with the permit in the event that a monitoring parameter is reset to a different value based upon subsequent stack tests and to reflect current facility operations. References to Application No. 16576 were removed.
6.1.7.b.vii	6.1.7.b.viii	V-06-0 V-06-4	This condition includes exceedances of scrubbant flow rate and differential pressure drop of the No. 5 Smelt Dissolving Tank (R403) to be reported per the requirements of Condition 6.1.4. The condition was revised for clarification and to reflect current facility operations.
6.1.7.v.viii	--	V-07-0	New condition added for consistency with the revisions to Condition 5.2.2.
6.1.7.c.i.	6.1.7.c.i.	V-06-0 V-06-3	No change. This is a specific excursion to be reported per the requirements of Condition 6.1.4.
--	6.1.7.c.ii	V-06-0 V-06-3	Removed. The No. 4 Power Boiler (U700) is no longer subject to CAM.
6.1.7.c.ii. – iv.	6.1.7.c.iii. – vi.	V-06-0 V-06-3	These are specific excursions to be reported per the requirements of Condition 6.1.4. Condition 6.1.7.c.v was removed as the referenced modifications have not been completed. Condition 6.1.7.c.iii was revised to include language to allow the Mill to remain in compliance with the permit in the event that a monitoring parameter is reset to a different value based upon subsequent stack tests and to reflect current facility operations.
--	6.1.7.c.vii.	V-06-0 V-06-3	Removed. The facility no longer plans to burn petroleum coke.
--	6.1.7.c.viii	V-06-0 V-06-3	Removed. The referenced modifications have not been completed.
6.1.7.c.v.	6.1.7.c.ix.	V-06-0 V-06-3	No change. This is a specific excursion to be reported per the requirements of Condition 6.1.4. Condition 6.1.7.c.vi was Paragraph vii. was renumbered to v.
6.1.7.d.i. – vii.	6.1.7.d.i. – vii.	V-06-0 V-06-3	No changes. These are specific excursions to be reported per the requirements of Condition 6.1.4.
6.2.1 – 6.2.3	6.2.1 – 6.2.3	V-06-0	No changes. These are specific recordkeeping and reporting requirements for the No. 5 Lime Kiln (L537) and Lime Storage Silos (L541, L540).
6.2.4 – 6.2.10	6.2.4 – 6.2.10	V-06-0	No changes. These are specific recordkeeping and reporting requirements for the Nos. 4, 6, and 7 Power Boilers (U700, U706, U707).
6.2.11 – 6.2.12	6.2.11 – 6.2.12	V-06-0	No changes. These are specific recordkeeping and reporting requirements for fuel oil.
6.2.13 – 6.2.17	6.2.13 – 6.2.17	V-06-0 V-06-3 V-06-5	These are specific recordkeeping and reporting requirements per 40 CFR 63 Subpart S under the Cluster Rule. Condition 6.2.17 was modified under Permit V-06-3. Condition 6.2.13 was modified under V-06-5. Conditions 6.2.13, 6.2.14, and 6.2.16 were revised to clarify the average process operating periods.
6.2.18 – 6.2.19	6.2.18 – 6.2.19	V-06-0	No changes. These are specific recordkeeping and reporting requirements for the aerated stabilization basin (O900).

Permit Condition	Original Condition		Notes
	Number	Permit	
6.2.20 – 6.2.25	6.2.20 – 6.2.25	V-06-0	These are specific recordkeeping and reporting requirements per 40 CFR 63 Subpart MM. Condition 6.2.22 was modified under Permit V-06-3. Condition 6.2.21.a and b. were revised to remove the reference to the No. 6 Lime Kiln (L560) as this unit has not been constructed. Condition 6.2.22.j., k., and l. were also removed for consistency with the removal of L560. Condition 6.2.25 was revised to remove references to L560 and associated equipment. Condition 6.2.22 was revised to include language to allow the Mill to remain in compliance with the permit in the event that a monitoring parameter is reset to a different value based upon subsequent stack tests and to reflect current facility operations. References to Application No. 16576 were removed. New paragraphs c., d., f., g., and l. were added for consistency with changes to Condition 4.2.7. Paragraph i. was removed and existing paragraphs were renumbered accordingly. Condition 6.2.25.b was revised for consistency with changes made to Condition 4.2.7.
6.2.26	6.2.26	V-06-0	No change. This is a specific requirement per 40 CFR 63 Subpart GGGGG.
6.2.27 – 6.2.28	6.2.27 – 6.2.28	V-06-0	These are BACT requirements for the Nos. 5 and 6 Recovery Furnaces (R401, R407). Condition 6.2.27 was revised to remove condition references associated with the No. 5 Recovery Furnace modification, which was never completed.
--	6.2.29 – 6.2.30	V-06-0	Removed. The No. 6 Lime Kiln (L560) has not been constructed.
6.2.29	6.2.31	V-06-0	This is a BACT requirement. The reference to Condition 3.2.18 was removed as it no longer applies and BG08 has been installed. The reference to Condition 3.2.22 was removed as the paper machine upgrades have been completed.
6.2.30	6.2.32	V-06-0	No change. This condition requires the facility to keep records of actions taken to suppress fugitive dust from the woodyard area (WY01).
6.2.31	6.2.33	V-06-0	No change. This condition requires the facility to maintain fuel receipts per 40 CFR 60 Subpart Db.
6.2.32	6.2.34	V-06-0	No change. This condition requires the facility to keep records of uncontrolled total HAP emissions from equipment listed in Conditions 3.3.8 and 3.3.9.
6.2.33 – 6.2.36	6.2.35 – 6.2.38	V-06-0	No changes. These are specific requirements for the Nos. 5 and 6 Recovery Furnaces per Application No. 20887 dated December 15, 2011.
6.2.37 – 6.2.40	6.2.39 – 6.2.42	V-06-3	No changes. These conditions contain specific reporting requirements for Subpart MM.
6.2.41 – 6.2.45	6.2.43 – 6.2.47	V-06-4	No changes. These conditions outline recordkeeping and reporting requirements for the modifications as described in Application No. 28070.
6.2.46	6.2.48	V-06-5	No change. This condition outlines reporting requirements for an affirmative defense.
6.2.47	6.2.49	V0-6-5	No change. This condition outlines malfunction records required by 40 CFR 60 Subpart BBa.

VII. Specific Requirements

- A. Operational Flexibility: Not applicable.
- B. Alternative Requirements: Not applicable.
- C. Insignificant Activities

See Permit Application on GEOS website.
See Attachment B of the permit
- D. Temporary Sources: Not applicable.
- E. Short-Term Activities: Not applicable.
- F. Compliance Schedule/Progress Reports: Not applicable.
- G. Emissions Trading: Not applicable.
- H. Acid Rain Requirements: Not applicable.
- I. Stratospheric Ozone Protection Requirements: Not applicable.
- J. Pollution Prevention: Not applicable.
- K. Specific Conditions: Not applicable.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Template Condition 8.14.1 was updated in September 2011 to change the default submittal deadline for Annual Compliance Certifications to February 28.

Template Condition Section 8.27 was updated in August 2014 to include more detailed, clear requirements for emergency generator engines currently exempt from SIP permitting and considered insignificant sources in the Title V permit.

Template Condition Section 8.28 was updated in August 2014 to more clearly define the applicability of the Boiler MACT or GACT for major or minor sources of HAP.

Addendum to Narrative

The 30-day public review started on month day, year and ended on month day, year. Comments were/were not received by the Division.