

Statement of Basis
Georgia Pacific – Naheola Mill
101-0001

Georgia-Pacific Naheola LLC (GPN or the Mill) has applied for a renewal of Major Source Operating Permit (MSOP) 101-0001. This proposed Title V MSOP is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management (ADEM), in accordance with the terms and conditions of this permit.

The facility originally began operations in 1958. The initial Title V MSOP was issued on December 1, 2003, and this is the third renewal. The current MSOP was issued on August 7, 2018, with an effective date of July 1, 2018, and will expire on June 30, 2023. The renewal application was received on December 21, 2022.

The facility is located in Choctaw County, which is currently in compliance with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against GPN necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at <https://echo.epa.gov/> (Search using Facility ID AL0000000102300001).

Background

The Naheola Mill is a pulp and paper mill located in Pennington, Choctaw County, Alabama which is classified as a Class II county for particulates. The primary activities for the mill are pulp and paper production. The facility is a major source with respect to Title V, prevention of significant deterioration (PSD), maximum achievable control technology (MACT) standards, and national emission standards for hazardous air pollutants (NESHAP). Naheola Mill is a major source operating facility for the following pollutants: filterable particulate matter (PM), condensable PM, PM less than 10 micrometers (PM₁₀), PM less than 2.5 micrometers (PM_{2.5}), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), total reduced sulfur (TRS), greenhouse gases (GHG), and hazardous air pollutants (HAPs).

Power Operations

Naheola Mill's power operations consist of the Bubbling Fluidized Bed (BFB) Boiler, No. 11 Power Boiler, and No. 3 Power Boiler. These utilities provide steam and power for the facility.

BFB Boiler

BFB Boiler is an 810 million British thermal units per hour (MMBtu/hr) boiler that generates steam using biomass, wastewater treatment plant (WWTP) residuals, and natural gas. Air Permit 101-0001-X039 was issued on May 17, 2017, for the installation of the BFB Boiler. Construction was completed in 2019 and the air permit was incorporated into the MSOP under a Significant Modification issued on April 6, 2021.

Control Equipment:

The BFB Boiler is equipped with an 8-module baghouse for the control of particulate emissions.

Emission Limits and Emission Monitoring:

The BFB Boiler is subject to:

- The requirements of ADEM Admin. Code 335-3-10-.02 (2)(b) New Source Performance Standards (NSPS) Subpart Db for particulate matter, nitrogen oxides, and opacity.
- The requirements of 40 CFR Part 61 Subpart E for Mercury.
- The applicable requirements of 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, as a new fluidized bed unit designed to burn biomass.

The BFB Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
Filterable PM	≤ 0.00980 lb/MMBtu or ≤ 7.94 lb/hr $\leq 4.1 \times 10^{-3}$ lb/MMBtu (Effective October 6, 2025)	MACT, Title V	40 CFR 63 Subpart DDDDD 101-0001-X039	May 17, 2017
PM ₁₀	≤ 0.0243 lb/MMBtu or ≤ 19.64 lb/hr	Title V	101-0001-X039	May 17, 2017
PM _{2.5}	≤ 0.0234 lb/MMBtu or ≤ 18.93 lb/hr	Title V	101-0001-X039	May 17, 2017
Opacity	≤ 20 percent except for one 6-minute period per hour of not more than 27 percent	NSPS	40 CFR 60 Subpart Db	May 17, 2017
SO ₂	≤ 0.32 lb/MMBtu or ≤ 259.20 lb/hr	Title V	101-0001-X039	May 17, 2017
NO _x	≤ 0.20 lb/MMBtu (30 day rolling average)	NSPS	40 CFR 60 Subpart Db	May 17, 2017
CO	≤ 310 ppm at 3% O ₂ (30 day rolling average)	MACT	40 CFR 63 Subpart DDDDD	May 17, 2017
HCl	≤ 0.022 lb/MMBtu $\leq 2.1 \times 10^{-4}$ lb/MMBtu (Effective October 6, 2025)	MACT	40 CFR 63 Subpart DDDDD	May 17, 2017
Hg	≤ 3200 grams per 24-hour period	NESHAP	40 CFR 61 Subpart E	May 17, 2017
Hg	$\leq 8.0 \times 10^{-7}$ lb/MMBtu	MACT	40 CFR 63 Subpart DDDDD	May 17, 2017

The BFB Boiler emission monitoring requirements are:

- A particulate matter emission test shall be performed at least once per year.
- A mercury and hydrogen chloride performance test shall be performed annually within 13 months of the previous test. If performance tests for at least 2 consecutive years show that the mercury or hydrogen chloride emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the boiler or air pollution control equipment that could increase emissions, performance tests may be conducted for mercury and/or hydrogen chloride every third year. Each such performance test must be conducted no more than 37 months after the previous performance test.
- A continuous emission monitoring system (CEMS) for the measurement of NO_x shall be installed, calibrated, operated, and maintained.

- A CEMS for the measurement of CO shall be installed, calibrated, operated and maintained.
- The NO_x and CO CEMS shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every four calendar quarters.
- A continuous emission monitoring system for the measurement of opacity shall be installed, calibrated, operated, and maintained.
- All six-minute average opacities will be continuously recorded while the unit is in operation.
- Equation 19-1 from 40 CFR 60, Appendix A, Method 19 shall be used to calculate 1-hour NO_x and CO lb/MMbtu emission rates. This emission rate shall be multiplied by the boiler's heat input as derived from the boiler steam flow meter to determine the 1-hour NO_x and CO emissions, which shall be summed each day. This steam flow to heat input table shall be verified annually during the yearly emissions testing conducted on this boiler. Daily emissions will be summed up each month to obtain the monthly total. Individual monthly totals will be summed together to obtain the tons per 12-month emitted.
- For particulate matter and opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 15 percent the cause is to be investigated and appropriate action is to be taken.
- For particulate matter, monitoring, if any three-hour block average steam production rate is 110 percent of the average steam production rate set by the required complying periodic test or a complying emission test approved by the Department, the steam production rate is to be lowered until compliance is successfully demonstrated at the higher rate.
- Mercury re-testing is only required if changes are made in the operation that would potentially increase emissions above the level determined by the most recent sludge test.
- The facility shall maintain the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.
- The facility must conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels for HCl and Hg according to §63.7530(b)(1)-(2).
- The facility must demonstrate continuous compliance with each applicable emission limit, work practice standard, and operating limit of 40 CFR 63 Subpart DDDDD according to §63.7540(a) and Table 8.
- In order to indicate compliance with the NESHAP Subpart DDDDD operating limit for particulate matter, the permittee shall maintain opacity to less than or equal to 10 percent opacity or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the particulate matter emission limitation (daily block average). If the operating limit exceedance is indicated, corrective action is to be taken within twenty-four hours.

Changes During the Third Title V Renewal:

- Corrected the installation date from 2017 to 2019.
- Corrected naming convention from No. 3 Combination Fuel Boiler to Bubbling Bed 01 Boiler.
- Added the revised Boiler MACT emission standards for filterable PM and HCl (effective October 6, 2025).
- Clarified a number of work practice standards and operating limits for 40 CFR Part 63, Subpart DDDDD.
- Corrected references on emission limits from Rule 335-3-14-.04 to Rule 335-3-16-.05 as the unit did not go through PSD permitting nor take synthetic minor limits.

- All references of the Department granting alternative test methods have been removed from the permit.
- Added a proviso in the Emission Monitoring proviso for the 10% opacity daily block average operating limit.
- A number of citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

No. 11 Power Boiler

The No. 11 Power Boiler is a 283 MMBtu/hr boiler that generates steam using natural gas. Air Permit 101-0001-X041 was issued on March 24, 2017, for the construction of the No. 11 Power Boiler. Construction was completed in 2018. Air Permit 101-0001-X041 and the corresponding emission limits were incorporated into the MSOP under a Significant Modification issued on April 6, 2021.

Control Equipment:

There are no add-on control devices on this unit.

Emission Limits and Emission Monitoring:

The No. 11 Power Boiler is subject to:

- The requirements of ADEM Admin. Code 335-3-10-.02 (2)(b) New Source Performance Standards Subpart Db and /or ADEM Admin. Code R. 335-3-14-.04 for nitrogen oxides.
- The applicable requirements of 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, as a Gas 1 Boiler with a continuous oxygen trim system that maintains an optimum air to fuel ratio.
- The requirements of ADEM Admin. Code 335-3-4-.01 for Visible Emissions.
- The requirements of ADEM Admin. Code 335-3-4-.03 for Particulate Matter from fuel burning equipment.
- The requirements of ADEM Admin. Code 335-3-5-.01 for Sulfur Dioxide.

The No. 11 Power Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
NOx	≤ 0.20 lb/MMBtu (30 day rolling average)	NSPS, Anti-PSD	40 CFR 60 Subpart Db	March 24, 2017
PM	≤ 0.12 lb/MMBtu	SIP	Rule 335-3-4-.03 (4)	March 24, 2017
SO ₂	≤ 4.0 lb/MMBtu	SIP	Rule 335-3-5-.01 (b)	March 24, 2017
Opacity	≤ 20% with one six-minute period up to 40% in any one hour period	SIP	Rule 335-3-4-.01	March 24, 2017

The No. 11 Power Boiler emission monitoring requirements are:

- CEMS for measuring nitrogen oxides (NOx) shall be installed, calibrated, maintained, and operated in accordance with 40 CFR 60, Subpart Db, 60.48b. The continuous emission monitoring systems shall be subject to the quality control and quality assurance requirements of 40 CFR Part 60 Appendix B Specification 2 and Appendix F.
- This source shall meet the tune-up requirements found in Table 3 of 40 CFR Part 63, Subpart DDDDD as referenced in 40 CFR 63.7540(a)(10).

Changes During the Third Title V Renewal:

- Corrected the installation date from 2017 to 2018.
- Added the PM and SO₂ limits to the Informational Summary page table.
- Clarified the boiler classification under Boiler MACT in the Applicability section.
- All references of the Department granting alternative test methods have been removed from the permit.
- Added and corrected the Boiler MACT tune-up and reporting requirements.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

No. 3 Power Boiler

The No. 3 Power Boiler is a 379 MMBtu/hr boiler that generates steam using natural gas. This Boiler was installed in 1970, which is prior to the applicability dates for 40 CFR Part 60 Subparts D, Db, and Dc.

Control Equipment:

There are no add-on control devices on this unit.

Emission Limits and Emission Monitoring:

The No. 3 Power Boiler is subject to:

- The requirements of ADEM Admin. Code 335-3-4-.03 for Particulate Matter from fuel burning equipment.
- The requirements of ADEM Admin. Code 335-3-5-.01 for Sulfur Dioxide.
- The requirements of ADEM Admin. Code 335-3-4-.01 for Visible Emissions.
- The applicable requirements of 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters as a Gas 1 Boiler with a continuous oxygen trim system that maintains an optimum air to fuel ratio.

The No. 3 Power Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin
PM	≤ 0.12 lb/MMBtu	SIP	Rule 335-3-4-.03 (2)
SO ₂	≤ 4.0 lb/MMBtu	SIP	Rule 335-3-5-.01 (b)
Opacity	≤ 20% with one six-minute period up to 40% in any one hour period	SIP	Rule 335-3-4-.01

The No. 3 Power Boiler emission monitoring requirements are:

- This source shall meet the tune-up requirements found in Table 3 of 40 CFR Part 63, Subpart DDDDD as referenced in 40 CFR 63.7540(a)(10).

Changes During the Third Title V Renewal:

- Corrected citations to PM limit to 335-3-4-.03 (2).
- Clarified the boiler classification under Boiler MACT in the Applicability section.
- All references of the Department granting alternative test methods have been removed from the permit.
- Added and corrected the Boiler MACT tune-up and reporting requirements.

- Citations to Rule 335-3-14-.02 and Rule 335-3-14-.04 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

Paper Machines and Converting

GPN operates four paper machines and two board machines. The Mill produces several products including napkins, towels, light and medium weight uncoated boards, medium to heavy coated food board, tissue, and pulp. All paper machines operate in a similar manner. Pulp is modified into an acceptable material to be delivered to the paper machines. The stock material is fed to the paper machines forming section to form a paper sheet while water is pulled out using vacuum pumps. Following the forming section, the sheet goes through the drying section consisting of direct contact heated air streams and large steam heated drums (Yankee dryers) for indirect heating. The dried paper is then wound on to large “parent” rolls prior to converting.

The large parent rolls from the paper machines are converted into final marketable products on one of the Mill’s converting lines. The converting operations consist of rewinding, embossing, slitting, perforating, winding, or staking. The final product is then wrapped and packaged for shipping.

No. 8 Paper Machine

The No. 8 Paper Machine produces tissue products at an operating capacity of 82,861 ADTFP per year. Air Permit 101-0001-X045 was issued on January 10, 2020, and has been incorporated into the MSOP during the third renewal. The potential emissions for the paper machine are much lower than the emission limit; therefore, additional monitoring would not be necessary.

Control Equipment:

The No. 8 Paper Machine is equipped with a wet scrubber for control of particulate matter emissions.

Emission Limits and Emission Monitoring:

The No. 8 Paper Machine is subject to:

- The requirements of ADEM Admin. Code 335-3-4-.04 for Control of Particulate Matter emissions.

The No. 8 Paper Machine has the following limits:

Pollutant	Limit	Limit Type	Origin
PM	$E = 3.59P^{0.62}$ (Where P is the process weight rate in tons/hour and E is the PM emission rate in pounds/hour)	SIP	Rule 335-3-4-.04

Converting Lines

The Mill replaced two converting lines in 2022 with the Towel 9 Line and the PCMC Forte Line. The Towel 9 Line produces up to 4,000,035 cases per year of paper towels and the PCMC Forte Line produces up to 5,333,745 cases per year of tissue. Air Permit 101-0001-X047 was issued on August 26, 2021, for the construction of the new lines and has been incorporated into the MSOP during the third renewal. The tissue production capacity for the PCMC Forte line was also corrected from 5,337,745 cases per year to 5,333,745 cases per year.

Control Equipment:

The Towel 9 Line is equipped with a wet scrubber and the PCMC Forte Line is equipped with a drum filter for control of particulate emissions.

Emission Limits and Emission Monitoring:

The Converting Lines are subject to:

- The requirements of ADEM Admin. Code 335-3-4-.04 for Control of Particulate Matter emissions.
- The requirements of the National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 2 of Subpart JJJJ and Subpart JJJJ.

The Converting Lines have the following limits:

Emission Unit	Pollutant	Limit	Limit Type	Origin
Towel 9 Converting Line	PM	$E = 3.59P^{0.62}$ (Where P is the process weight rate in tons/hour and E is the PM emission rate in pounds/hour)	SIP	Rule 335-3-4-.04
Towel 9 Converting Line and PCMC Forte Line	HAPs	≤ 1.6 percent of the mass of coating materials applied for each month	MACT	40 CFR 63 Subpart JJJJ

The Converting Lines emission monitoring requirements are:

- The facility must use the procedures in §63.3360 (c) and (d) to determine the organic HAP or volatile matter and coating solids content of coating materials.
- The facility must submit a semiannual compliance report according to §63.400(c)(1) and (2).

Converting Broke System

Trimming and/or general waste from the converting area is collected for recycling in the broke system. Air Permit 101-0001-X034 was issued on November 17, 2009, for upgrades to the Converting Broke System following a fire at the Mill. GPN installed a wet scrubber on the system and took synthetic minor limits for particulate matter. The air permit and limits were subsequently incorporated into the MSOP during the second renewal, issued on April 18, 2013. As part of the third renewal, the operating capacity was changed from 62,520 cases/day to 400 ADTP/day.

Control Equipment:

The Converting Broke System is equipped with a Venturi wet scrubber for control of particulate matter emissions.

Emission Limits and Emission Monitoring:

The Converting Broke System is subject to:

- The requirements of ADEM Admin. Code 335-3-14-.04 prevention of significant deterioration synthetic minor limits for particulate matter.

The Converting Broke System has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 2.28 lb/hr	Anti-PSD	101-0001-X034	November 17, 2009

Opacity	≤ 20% with one 6-min period up to 40% in any one hour period	SIP	Rule 335-3-4-.01	N/A
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The Converting Broke System emission monitoring requirements are:

- For particulate matter periodic monitoring, if any three-hour block average wet scrubber liquid supply flow rate (combined flow to the quench, venturi inlet and venturi throat) is less than 90 percent of its three hour average value recorded at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.

Chemical Recovery Operations

The Mill operates a recovery system that processes combined kraft black liquor from pulping both hardwood and softwood. The chemical recovery operations consist of the C-Multiple Effect Evaporator System, No. 4 Recovery Furnace, and the No. 4 Smelt Dissolving Tank. Black liquor from the pulping process is concentrated in the multiple effect evaporator before being fired in the recovery furnace. Inorganic chemicals collect in the bottom of the furnace to form molten smelt. Molten smelt is directed to the Smelt Tank where it forms green liquor to regenerate white liquor in the causticizing operation. LVHC NCG's are collected and routed to either the No. 3 Lime Kiln or the Backup NCG Incinerator.

C-Multiple Effect Evaporator Set

Weak black liquor from the pulping operations is processed through the eight-effect evaporator system and solids crystallizer to increase solids content from approximately 15% to 70-75%. Indirect steam heat drives water from the liquid resulting in strong black liquor. The strong black liquor is fired in the recovery furnace. The evaporator set was originally installed in 1992 and has an operating capacity of 283,340 pounds of black liquor solids (BLS) per hour.

Control Equipment:

LVHC NCG's from the evaporator are collected and incinerated in the No. 3 Lime Kiln or the backup NCG Incinerator.

Emission Limits and Proposed Periodic Monitoring:

The C-Multiple Effect Evaporator Set is subject to:

- The applicable requirements of Federal New Source Performance Standards Subpart BB.
- The applicable requirements of Federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S.

The C-Multiple Effect Evaporator Set emission monitoring requirements are:

- For total reduced sulfur periodic monitoring at least once per day mill personnel shall determine if the gases are being incinerated as required and if gases are not being incinerated, investigate and take corrective action within twenty-four hours.
- The evaporator system is subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the "Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" sections.

No. 4 Recovery Furnace

The No. 4 Recovery Furnace is a non-direct contact furnace that burns primarily black liquor to recover white liquor and produce steam. Fuel oil and natural gas are also used as auxiliary fuels. The No. 4 Recovery Furnace is rated at a capacity of 283,340 lb BLS/hr and was originally installed in 1992. Air Permit 101-0001-X024 was issued on August 16, 1990, containing the PSD/BACT limits listed below. On June 30, 1999, Air Permit 101-0001-X024 was re-issued with a revised NO_x ppm limit and corrected unit description on the cover page. These air permits were subsequently incorporated into the MSOP during the initial issuance on December 1, 2003.

Control Equipment:

The No. 4 Recovery Furnace has an electrostatic precipitator (ESP) for the control of particulate emissions.

Emission Limits and Proposed Periodic Monitoring:

The No. 4 Recovery Furnace is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-10-.02 (1) and (28) New Source Performance Standards Subpart BB for kraft pulp mills.
- The requirements of ADEM Admin. Code 335-3-14-.04 (9)(b) for particulate matter, total reduced sulfur, sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds.
- The applicable requirements of ADEM Admin. Code 335-3-10-.02 (2)(b) New Source Performance Standards Subpart Db for nitrogen oxide emissions and 40 CFR 60 Subpart A, General Provisions when distillate fuel oil or natural gas are fired.
- The requirements of National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart MM and 40 CFR Part 63 Subpart MM as referenced in ADEM Admin. Code 335-3-11-.06 (38).

The No. 4 Recovery Furnace has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 0.024 gr/DSCF at 8% O ₂ and ≤ 74.4 lb/hr	PSD/BACT	101-0001-X024	August 16, 1990
TRS	≤ 5 ppmv at 8% O ₂ and ≤ 9.0 lb/hr	NSPS, PSD/BACT	101-0001-X024	August 16, 1990
SO ₂	≤ 94 ppmv at 8% O ₂ and ≤ 339 lb/hr (Three-hour average) when black liquor is being fired; ≤ 0.3 lb/MMBtu when fuel oil is fired	PSD/BACT	101-0001-X024	August 16, 1990
NO _x	≤ 100 ppmv at 8% O ₂ and ≤ 298 lb/hr when black liquor is fired; ≤ 0.10 lb/MMBtu when natural gas or distillate fuel oil is fired; When natural gas or distillate fuel oil is fired with a byproduct:	NSPS, PSD/BACT	101-0001-X024	August 16, 1990 June 30, 1999

	$E_n = \frac{0.1(H_g + H_o) + 0.3(H_{BL} + H_S)}{(H_g + H_o + H_{BL} + H_S)}$			
Opacity	≤ 35% (six-minute average)	NSPS, MACT	40 CFR 60 Subpart BB 40 CFR 63 Subpart MM	N/A
CO	≤ 327 ppmv at 8% O ₂ and ≤ 515.9 lb/hr when black liquor is fired	PSD/BACT	101-0001-X024	August 16, 1990
VOC	≤ 184 ppmv at 8% O ₂ and ≤ 124.4 lb/hr when black liquor is fired	PSD/BACT	101-0001-X024	August 16, 1990
HAPs	PM as a surrogate ≤ 0.044 gr/DSCF at 8% O ₂	MACT	40 CFR 63 Subpart MM	N/A

The No. 4 Recovery Furnace emission monitoring requirements are:

- A particulate matter emission test shall be performed at least once per year.
- For particulate matter and opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 20 percent the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.
- All six-minute average opacities will be continuously recorded while the unit is in operation.
- For particulate matter, total reduced sulfur, sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compound periodic monitoring, if any three-hour block average liquor firing rate is greater than 110 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the feed rate is to be lowered until compliance is successfully demonstrated at the higher rate.
- A continuous emission monitoring system for the measurement of total reduced sulfur and oxygen shall be installed, calibrated, operated, and maintained.
- A continuous emission monitoring system for the measurement of opacity shall be installed, operated and maintained.
- A continuous emission monitoring system (CEMS) to monitor NO_x and O₂ (or CO₂) shall be installed, operated and maintained consistent with the requirements of 40 CFR Part 60 Subpart Db, Section 60.48b(b).
- A sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compound emission test shall be performed at least once every five years to certify compliance and set periodic monitoring parameters.
- The facility must maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC) system.
- For compliance with 40 CFR Part 63, Subpart MM, the facility must conduct a particulate matter performance test, pursuant to 63.865, every five years.

Changes During the Third Title V Renewal:

- Added a citation to 40 CFR 63 Subpart MM to the opacity limit in the Informational Summary page table.
- Added a proviso stating opacity shall not exceed 35% for 6% or more of the operating time per quarter, pursuant to 40 CFR 60 Subpart BB.
- Added a separate proviso for the HAP emission limit (PM as a surrogate), pursuant to 40 CFR 63 Subpart MM.

- All references of the Department granting alternative test methods have been removed from the permit.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- Added a proviso requiring recordkeeping of all six-minute average opacities.
- Added a proviso for the 40 CFR 63 Subpart MM performance testing requirement.
- Added a proviso for when periods of excess emissions indicate a violation under 40 CFR 60 Subpart BB.

No. 4 Smelt Dissolving Tank

Molten inorganic chemicals (sodium carbonate and sodium sulfide) run from the bottom of the No. 4 Recovery Furnace into the No. 4 Smelt Tank. The stream of molten smelt is shattered by high velocity steam into small particles before it contacts the liquid to reduce the explosive force of the molten chemical when it hits the cooler water. Here the smelt becomes green liquor and enters the recausticizing loop. This unit was originally installed in 1992. Air Permit 101-0001-X025 was issued on August 16, 1990, containing the PSD/BACT limits listed below. This air permit was subsequently incorporated into the MSOP during the initial issuance on December 1, 2003.

Control Equipment:

The vent stack in the dissolving tank is fitted with a scrubber system including an exhaust fan. The dissolving tank gases are routed to the scrubber where weak wash is used to absorb the gases and control the entrained particulate matter. The scrubbed gases exit the top of the scrubber through a vent and the weak wash is recirculated. A portion of the weak wash is continually replaced to maintain the absorbing efficiency.

Emission Limits and Proposed Periodic Monitoring:

The No. 4 Smelt Dissolving Tank is subject to:

- The applicable requirements of ADEM Admin. Code 335-3-10-.02 (1) and (28) New Source Performance Standards Subpart BB for kraft pulp mills.
- The requirements of Rule 335-3-14-.04 for particulate matter, total reduced sulfur, and sulfur dioxide.
- The requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The requirements of National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart MM and 40 CFR Part 63 Subpart MM as referenced in ADEM Admin. Code 335-3-11-.06 (38).

The No. 4 Smelt Dissolving Tank has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 0.2 lb/ton BLS (dry weight) and ≤ 22.5 lb/hr	PSD/BACT, NSPS	101-0001-X025 40 CFR 60 Subpart BB	August 16, 1990
TRS	≤ 0.033 lb/ton BLS and ≤ 3.7 lb/hr	PSD/BACT, NSPS	101-0001-X025 40 CFR 60 Subpart BB	August 16, 1990
SO ₂	≤ 15 lb/hr	PSD/BACT	101-0001-X025	August 16, 1990
Opacity	≤ 20% with one 6-min period up to 40% in any one hour period	SIP	Rule 335-3-4-.01	N/A

HAPs	PM as a surrogate ≤ 0.2 lb/ton BLS (dry weight)	MACT	40 CFR 63 Subpart MM	N/A
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The No. 4 Smelt Dissolving Tank emission monitoring requirements are:

- A particulate matter emission test shall be performed at least once per year.
- A total reduced sulfur and sulfur dioxide emission test shall be performed at least once every five years to certify compliance and set periodic monitoring parameters.
- For particulate matter, total reduced sulfur, and sulfur dioxide periodic monitoring, if any three-hour block average liquor firing rate is greater than 110 percent of its value set by the required complying periodic test or a complying test approved by the Department, the feed rate is to be lowered until compliance is successfully demonstrated at the higher rate.
- For particulate matter, total reduced sulfur, and sulfur dioxide periodic monitoring, if any three-hour block average wet scrubber weak wash liquid flow rate to the fan is less than 90 percent of its respective average value set by the required complying periodic test or a complying test approved by the Department, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.
- Pursuant to 40 CFR Part 63, Subpart MM, the facility shall monitor the scrubber total liquid supply flow rate (combined flow to the fan and lower zone spray nozzles) and the fan amperage.
- This unit shall not have 6 or more 3-hour average parameter values within any 6-month reporting period that are outside the range of values.
- For compliance with 40 CFR Part 63, Subpart MM, the facility must conduct a particulate matter performance test, pursuant to 63.865, every five years.

Changes During the Third Title V Renewal:

- Removed citation to the State TRS regulations since the unit is subject to NSPS and PSD/BACT requirements.
- Added particulate matter and total reduced sulfur to applicability under Rule 335-3-14-.04.
- Added a separate proviso for the HAP emission limit (PM as a surrogate), pursuant to 40 CFR 63 Subpart MM.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- Added a proviso requiring establishment of scrubber flow rate and fan amperage operating limits pursuant to 40 CFR 63 Subpart MM.
- Added a proviso for the 40 CFR 63 Subpart MM performance testing requirement.

Lime Recovery and Facility NCG System

Green liquor from the smelt dissolving tank is clarified and then mixed with calcium oxide (CaO) in the slaker. The sodium salts in the green liquor react with CaO to form white liquor and lime mud in the causticizers. This white liquor and lime mud is then clarified to separate the white liquor from the lime mud. The white liquor is sent to the digesters, and the lime mud is conditioned, thickened, and burned in the No. 3 Lime Kiln to form CaO.

No. 3 Lime Kiln

Calcium carbonate mud from the lime mud filter is converted to calcium oxide in the kiln. The No. 3 Lime Kiln can fire natural gas and NCG's from the pulping and chemical recovery operations. The lime kiln was installed in 1991 and has an operating capacity of 44,000 pounds of CaO per hour. Air Permit 101-0001-X026 was issued on August 16, 1990, containing the PSD/BACT limits

listed below. This air permit was subsequently incorporated into the MSOP during the initial issuance on December 1, 2003.

Control Equipment:

The lime kiln is equipped with an ESP to control particulate emissions and a dynamic gas scrubber to control SO₂ and TRS emissions. The lime kiln itself is considered a control device and is used to control the LVHC gases at the Mill.

Emission Limits and Proposed Periodic Monitoring:

The Lime Kiln is subject to:

- The requirements of Federal New Source Performance Standards 40 CFR 60 Subpart A and Subpart BB.
- The requirements of ADEM Admin. Code 335-3-14-.04 (9) for particulate matter, total reduced sulfur, sulfur dioxide, nitrogen oxides, carbon monoxide and volatile organic compounds.
- The requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The requirements of National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart MM and 40 CFR Part 63 Subpart MM as referenced in ADEM Admin. Code 335-3-11-.06 (38).

The Lime Kiln has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 0.064 gr/DSCF at 10% O ₂ and ≤ 24.5 lb/hr when firing natural gas.	PSD/BACT	101-0001-X026	August 16, 1990
TRS	≤ 8 ppm at 10% O ₂ and ≤ 1.8 lb/hr	PSD/BACT, NSPS	101-0001-X026 40 CFR 60 Subpart BB	August 16, 1990
SO ₂	≤ 66.5 lb/hr	PSD/BACT	101-0001-X026	August 16, 1990
Opacity	≤ 20% with one 6-min period up to 40% in any one hour period	SIP	Rule 335-3-4-.01	N/A
NOx	≤ 175 ppmv at 10% O ₂ and ≤ 56.8 lb/hr	PSD/BACT	101-0001-X026	August 16, 1990
CO	≤ 350 ppmv at 10% O ₂ and ≤ 69.4 lb/hr	PSD/BACT	101-0001-X026	August 16, 1990
VOC	≤ 5.1 lb/hr	PSD/BACT	101-0001-X026	August 16, 1990
HAPs	PM as a surrogate ≤ 0.064 gr/DSCF at 10% O ₂	MACT	40 CFR 63 Subpart MM	N/A

The Lime Kiln emission monitoring requirements are:

- A particulate matter emission test shall be performed at least once per year.
- For particulate matter, total reduced sulfur, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compound periodic monitoring, if any three-hour block average mud feed rate is greater than 110 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the feed rate is to be lowered until compliance is successfully demonstrated at the higher rate.

- A total reduced sulfur continuous emission monitor shall be installed, calibrated, maintained and operated in accordance with 40 CFR §60.284, except that monitoring spans may be approved by the Director.
- For sulfur dioxide periodic monitoring, if any three-hour block average wet scrubber recirculation flow rate or pH is less than 90 percent of its respective average value set by the required complying periodic test or a complying test approved by the Department, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours. A manual pH reading taken every three hours may be substituted if the continuous pH monitoring system fails.
- A sulfur dioxide, nitrogen oxide, carbon monoxide, and volatile organic compound emission test shall be performed at least once every five years to certify compliance and set periodic monitoring parameters.
- The facility shall monitor the scrubber recirculation flow and scrubber bleed-off flow rate.
- This unit shall not have 6 or more 3-hour average parameter values within any 6-month reporting period that are outside the range of values.
- The facility must maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC) system.
- For compliance with 40 CFR Part 63, Subpart MM, the facility must conduct a particulate matter performance test, pursuant to 63.865, every five years.

Changes During the Third Title V Renewal:

- Added a separate proviso for the HAP emission limit (PM as a surrogate), pursuant to 40 CFR 63 Subpart MM.
- All references of the Department granting alternative test methods have been removed from the permit.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- Added a proviso for the 40 CFR 63 Subpart MM performance testing requirement.
- Removed Fuel Oil as a permitted fuel and the associated proviso.

NCG Incinerator

NCG's from the pulping and chemical recovery areas are conditioned by two white liquor scrubbers and then combusted primarily in the No. 3 Lime Kiln. The NCG Incinerator is used as a backup and is limited to no more than 4,380 hours of operation per 12 month rolling period. Natural gas is used for the primary burner in the incinerator. Air Permit 101-0001-X034 was issued on December 2, 2009, containing the synthetic minor limits listed below. This air permit was subsequently incorporated into the MSOP during the second renewal issued on April 18, 2003.

The Mill currently complies with the MACT I limit to reduce HAPs to less than 20 ppmv corrected to 10% O₂ on a dry basis. However, the MSOP reflects all treatment options available to the Mill under 40 CFR Part 63 Subpart S.

Control Equipment:

This unit is equipped with a packed-bed/spray tower/venturi absorber for the control of SO₂ emissions. The scrubbed gases exit the top of the scrubber through a vent and the weak wash is recirculated. Downstream of the wet scrubber is a wet ESP for the control of PM and SAM emissions.

Emission Limits and Proposed Periodic Monitoring:

The NCG Incinerator is subject to:

- The requirements of ADEM Admin. Code 335-3-14-.04 prevention of significant deterioration synthetic minor limits for particulate matter, sulfur dioxide, and sulfuric acid mist.
- The requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The Federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S.

The NCG Incinerator has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 1.5 lb/hr	Anti-PSD	101-0001-X034	December 2, 2009
SO ₂	≤ 17.5 lb/hr ≤ 4380 hr/yr	Anti-PSD	101-0001-X034	December 2, 2009
Opacity	≤ 20% with one 6-min period up to 40% in any one hour period.	SIP	Rule 335-3-4-.01	N/A
H ₂ SO ₄	≤ 0.9 lb/hr	Anti-PSD	101-0001-X034	December 2, 2009
HAPs	Equipment systems shall be enclosed and vented into a closed-vent system and routed to a control device that reduces the total HAP concentration pursuant to 40 CFR 63.443 (d).	MACT	40 CFR 63 Subpart S	N/A

The NCG Incinerator emission monitoring requirements are:

- A Sulfur Dioxide emission test shall be performed at least once per year.
- A Particulate Matter and Sulfuric Acid Mist emission test shall be performed at least once every five years.
- The temperature of the combustion chamber shall be continuously monitored while combusting NCG gases.
- For Particulate Matter and Sulfur Dioxide periodic monitoring, if any three-hour block average wet scrubber liquid supply flow rate is less than 90 percent of its three hour average value recorded at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.
- For Particulate Matter and Sulfuric Acid Mists periodic monitoring, if any three-hour block average wet electrostatic precipitator total secondary voltage value is less than 90 percent of its average value recorded at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.
- For Sulfur Dioxide and Sulfuric Acid Mists periodic monitoring, if any three-hour block average pH value is less than 90 percent of its average value recorded at the time of a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.

- Since this unit is controlled by a wet scrubber, opacity periodic monitoring will be satisfied through particulate emission periodic monitoring.
- A hazardous air pollutant performance test shall be performed once every five years, within 60 months of the previous test.

Changes During the Third Title V Renewal:

- Added every five year testing requirement for 40 CFR 63 Subpart S.
- All references of the Department granting alternative test methods have been removed from the permit.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- Added a recordkeeping proviso to keep records of the three-hour block average pH recordings.

Pulping Operations

GPN's pulping operations consist of the Nos. 1 – 6 Digester Systems, Nos. 7 and 8 Digester Systems, and the Kamyr Digester. Hardwood chips are cooked in one of the 8 batch digesters. Softwood chips are cooked in the Kamyr Digester. The resulting pulp is sent to the de-knotters and Chemi-Washer for further processing. NCG's from the processes flow through a series of condensers, scrubber, and are then incinerated in the No. 3 Lime Kiln or backup NCG Incinerator.

Nos. 1 - 6 Digester Systems

The Nos. 1 - 6 digester system is rated at a maximum of 187.5 tons per day of air dried pulp (ADP) per digester. An individual digester holds about 60 tons of hardwood chips and 15,000 gallons of white/black liquor blend. The chips and liquor are added to the top of the digester, which is then capped, heated, and brought up to operating pressure by direct steam addition. The batch is held for a period of time in order to cook, approximately two hours. When the holding time is over, the pressure in the digester is released through a blow valve at the bottom of the digester. This causes the contents of the digester to be blown to a receiving blow tank. Relief gases vented from the digester are collected and treated in the NCG system. The Nos. 1 – 6 Digesters were installed in 1958.

Control Equipment:

LVHC NCG's are collected and incinerated in the No. 3 Lime Kiln or the backup NCG Incinerator.

Emission Limits and Proposed Periodic Monitoring:

The Nos. 1 - 6 Digesters are subject to:

- The requirements of ADEM Admin. Code 335-3-5-.04(5) for total reduced sulfur.
- The applicable requirements of Federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S.

The Nos. 1 - 6 Digesters emission monitoring requirements are:

- For total reduced sulfur periodic monitoring at least once per day, mill personnel shall determine if the gases are being incinerated as required and if gases are not being incinerated, investigate and take corrective action within twenty-four hours.
- The digesters are subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the "Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" sections.

Changes During the Third Title V Renewal:

- Removed “State Only” from the 40 CFR 63 Subpart S requirement on the Informational Summary page table.
- Added references to Provisos for “Pulping System Processes”, “Process Condensates”, and “Enclosures and Closed-Vent Systems” under the Compliance and Performance Test Methods and Procedures section.
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

Nos. 7 & 8 Digester Systems

Both the No. 7 & 8 digester systems are rated at a maximum of 187.5 tons per day of air dried pulp. Each digester holds about 60 tons of hardwood chips and 15,000 gallons of white/black liquor blend. The chips and liquor are added to the top of the digester, which is then capped, heated, and brought up to operating pressure by direct steam addition. The batch is held for a period of time in order to cook, approximately two hours. When the holding time is over, the pressure in the digester is released through a blow valve at the bottom of the digester. This causes the contents of the digester to be blown to a receiving blow tank. Relief gases vented from the digester are collected and treated in the NCG system. The Nos. 7 & 8 Digesters were installed in 1997.

Control Equipment:

LVHC NCG’s are collected and incinerated in the No. 3 Lime Kiln or the backup NCG Incinerator.

Emission Limits and Proposed Periodic Monitoring:

The Nos. 7 & 8 Digesters are subject to:

- The applicable requirements of Federal New Source Performance Standards Subpart BB for total reduced sulfur.
- The applicable requirements of Federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S.

The Nos. 7 & 8 Digesters emission monitoring requirements are:

- For total reduced sulfur periodic monitoring at least once per day, mill personnel shall determine if the gases are being incinerated as required and if gases are not being incinerated, investigate and take corrective action within twenty-four hours.
- The digesters are subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the “Pulping System Processes”, “Process Condensates”, and “Enclosures and Closed Vent Systems” sections.

Changes During the Third Title V Renewal:

- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

Kamyr Continuous Digester

Softwood chips are pre-steamed and fed into the top of the Kamyr single vessel continuous digester. The chips pass through an impregnation zone and then two heat zones, where liquor is extracted from the digester, heated in indirect heat exchangers, and returned to the digester to raise the chips cooking temperature. After retention in the cooking zone, the pulp passes into an extraction zone. Brown stock filtrate, introduced into the bottom of the digester, flows

countercurrently in this zone. Liquor is extracted and sent to the flash tank. The pulp then exits to the blow tank.

Control Equipment:

LVHC NCG's are collected by the Pulping System LVHC NCG system and incinerated in the Lime Kiln or the backup NCG Incinerator.

Emission Limits and Proposed Periodic Monitoring:

The Kamyrdigester is subject to:

- The applicable requirements of Federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S.
- The requirements of ADEM Admin. Code 335-3-5-.04 (5) for total reduced sulfur.

The Kamyrdigester emission monitoring requirements are:

- For total reduced sulfur periodic monitoring at least once per day mill personnel shall determine if the gases are being incinerated as required and if gases are not being incinerated, investigate and take corrective action within twenty-four hours.
- The digester is subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the "Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" sections.

Changes During the Third Title V Renewal:

- Added "State Only" to the SIP requirement on the Informational Summary page table.
- Corrected a citation from Rule 335-3-11-.01 to Rule 335-3-11-.06 (18).
- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.

Bleaching and De-inking Operations

Bleaching System

The Mill uses a bleaching system to increase the brightness of the pulp for the final product. The bleaching system consists of the Hardwood Bleach Plant, Softwood Bleach Plant, and the Broke Bleach Plant. The hardwood and softwood plants use chlorine dioxide, oxygen, and hydrogen peroxide to bleach the pulp. Bleaching is carried out by mixing the chemicals, heating the mixture, holding the mixture for a period of time, and then washing the chemicals and impurities out of the mixture. In order to reuse trimmings and unusable paper from the finishing areas, the inks and dyes must be removed in the Broke Bleach Plant. Paper waste is sent to the broke thickener for removal of water, then sodium hypochlorite and steam are added to bleach the paper waste. The Hardwood Bleach Plant was installed in 1991. Both the Softwood Bleach Plant and the Broke Bleach Plant were originally installed in 1958 and were modified in 1991. Air Permit 101-0001-X022 was issued on January 18, 1990, for installation of new scrubbers on the bleaching systems. The permit contained State Air Toxics limits for chlorine and chlorine dioxide. The air permit and limits were subsequently incorporated into the MSOP during the initial issuance on December 1, 2003. The Mill currently complies with the MACT I limit to reduce chlorinated HAPs to less than 10 ppmv at the treatment device outlet. However, the MSOP reflects all treatment options available to the Mill under 40 CFR Part 63 Subpart S.

Control Equipment:

The hardwood bleaching system uses a packed bed scrubber for the control of chlorine, chlorine dioxide, and HAPs. The softwood and broke systems are routed to another packed bed scrubber for the control of chlorine, chlorine dioxide, and HAPs.

Emission Limits and Proposed Periodic Monitoring:

The Bleaching System is subject to:

- The requirements of 40 CFR Part 63 General Provisions as provided for in Table 1 of Subpart S and Subpart S.

The Bleaching System has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
HAPs	Enclosed and vented to a closed-vent system (per 63.450) and routed to a control device.	MACT	40 CFR 63 Subpart S	N/A
HAPs	Chlorinated HAPs shall be reduced pursuant to 40 CFR 63.445 (c).	MACT	40 CFR 63 Subpart S	N/A
ClO ₂ (Softwood and Broke Bleach)	≤ 1.66 lb/hr	Air Toxics	101-0001-X022	January 18, 1990
Cl (Softwood and Broke Bleach)	≤ 1.74 lb/hr	Air Toxics	101-0001-X022	January 18, 1990
ClO ₂ (Hardwood Bleach)	≤ 0.41 lb/hr	Air Toxics	101-0001-X022	January 18, 1990
Cl (Hardwood Bleach)	≤ 1.52 lb/hr	Air Toxics	101-0001-X022	January 18, 1990

The Bleaching System emission monitoring requirements are:

- The bleaching system is subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the and “Enclosures and Closed Vent Systems” section.
- A continuous monitoring system (CMS, as defined in 40 CFR 63 Subpart A General Provisions §63.2) shall be installed, calibrated, certified, operated, and maintained according to the manufacturer’s specifications. The CMS shall include a continuous recorder.
- The CMS shall monitor the pH or the oxidation/reduction potential of the gas scrubber effluent, the gas scrubber influent flow rate, and the exhaust gas fan motor status.
- The bleaching system scrubber shall be operated in accordance with the parameter value ranges established in accordance with 40 CFR 63.453 (n).
- At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

- A chlorinated HAP performance test shall be performed within 60 months from the date of the previous performance test.
- A chlorine dioxide and chlorine emission test shall be performed at least once every five years to certify compliance and set periodic monitoring parameters for the Softwood and Broke Bleach Lines' scrubber and the Hardwood Bleach Line scrubber.

Changes During the Third Title V Renewal:

- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- Added a proviso stating, “the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions” pursuant to 40 CFR 63 Subpart S.
- Added testing requirements for every 60 months as required under 40 CFR 63 Subpart S.
- All references of the Department granting alternative test methods have been removed from the permit.

65 Ton per Day Chlorine Dioxide Generator

Chlorine dioxide is generated using the RB process, in which methanol is used as the chlorate-reducing agent in the presence of sulfuric acid. The generating system consists of a generator, a reboiler, and a shell tube heat exchanger. Feed streams to the system include sodium chlorate, methanol, water, and sulfuric acid. Vent gases from the generator system are collected and treated in a packed column scrubber to remove the escaping chlorine dioxide and trace chlorine. The Chlorine Dioxide Generator was originally installed in 1992 and was modified in 1999. The generator has an operating capacity of 5,417 pounds per hour. Air Permit 101-0001-X022 was issued on January 18, 1990, for installation of the Chlorine Dioxide Generator. The permit contained State Air Toxics limits for chlorine dioxide. The unit was modified in 1999 to increase the operating capacity and Air Permit 101-0001-X022 was re-issued on October 29, 1999, with Air Toxic limits for chlorine and chlorine dioxide. The air permit and limits were subsequently incorporated into the MSOP during the initial issuance on December 1, 2003.

Control Equipment:

Packed column with vent and tail gas scrubber.

Emission Limits and Proposed Periodic Monitoring:

The 65 Ton per Day Chlorine Dioxide Generator is subject to:

- State only air toxics limits under Rule 335-3-16-.05.

The 65 Ton per Day Chlorine Dioxide Generator has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
Cl	≤ 0.68 lb/hr	Air Toxics	101-0001-X022	October 29, 1999
ClO ₂	≤ 0.22 lb/hr	Air Toxics	101-0001-X022	January 18, 1990

The 65 Ton per Day Chlorine Dioxide Generator emission monitoring requirements are:

- A chlorine and chlorine dioxide emission test shall be performed once every five years to certify compliance and set periodic monitoring parameters.
- When using DEC or equivalent commercial product as a scrubbing liquid, for chlorine and chlorine dioxide periodic monitoring, at least once daily record an indication that the

recirculation pump is operating. If any three-hour block average wet scrubber recirculation ORP is greater than 110 percent of its average value or if any three-hour block average wet scrubber recirculation flow rate is less than 90 percent of its average value set by a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.

- When using white liquor as a scrubbing fluid, at least once daily record scrubber liquid pH and indicate that the recirculation pump is operating. If the pH is greater than 110% or less than 90% of the average value set by a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours. If the scrubber liquid pH is not available, at least once daily record the white liquor flow. If the white liquor flow is below the average value set by a required periodic test that showed compliance or a test approved by the Department that showed compliance, the cause is to be investigated and appropriate corrective action is to be taken within twenty-four hours.

Changes During the Third Title V Renewal:

- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- All references of the Department granting alternative test methods have been removed from the permit.

Chemi-Washer

Accepts from the primary screens go to the Chemi-Washer. Clean hot water and scrubbing cooling water is used as wash water to remove chemicals from the pulp. The weak black liquor from the Chemi-Washer is fed to an evaporator system for concentrating the black liquor solids. The Chemi-Washer was originally installed in 1958 and was modified in 1997. The operating capacity is 125,000 air-dried tons of unbleached pulp. Air Permit 101-0001-X031 was issued on February 11, 1997 for the installation of a TRS scrubber and contained air toxics limits for chlorine and chlorine dioxide. Air Permit 101-0001-X031 was re-issued on August 8, 1997, containing particulate matter limits in order to comply with the opacity limits. These air permits and limits were subsequently incorporated into the MSOP during the initial issuance on December 1, 2003.

Control Equipment:

Emissions are collected and treated in a chlorine dioxide scrubber system before discharged to the atmosphere. The candle mist eliminator is not currently in use.

Emission Limits and Proposed Periodic Monitoring:

The Chemi-Washer is subject to:

- The requirements of New Source Performance Standards Subpart BB for total reduced sulfur.
- The requirements of Federal National Emission Standards for Hazardous Pollutants Subpart S for HAPs.
- The requirements of ADEM Admin. Code R. 335-3-4-.01 for opacity.

The Chemi-Washer has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
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TRS	≤ 5 ppmv on a dry basis, uncorrected for oxygen content	NSPS	40 CFR 60 Subpart BB	N/A
HAPs	Incineration or Clean Condensate Alternative	MACT	40 CFR 63 Subpart S	N/A
Cl	≤ 6.8 lb/hr	Air Toxics	101-0001-X031	February 11, 1997
ClO ₂	≤ 1.2 lb/hr	Air Toxics	101-0001-X031	February 11, 1997
PM	≤ 0.028 gr/DSCF air and 1.7 lb/hr	Title V	101-0001-X031	August 8, 1997
Opacity	≤ 20% with one 6-min period up to 40% in any one hour period.	SIP	Rule 335-3-4-.01	N/A

The Chemi-Washer emission monitoring requirements are:

- A continuous emission monitoring system for the measurement of total reduced sulfur and oxygen shall be installed, operated and maintained. Any exceedance of the total reduced sulfur limit shall be an indication of poor scrubber performance and subsequently potential exceedances of chlorine, chlorine dioxide, and particulate matter emissions.
- For chlorine, chlorine dioxide, and particulate matter emissions periodic monitoring, for any exceedance of the total reduced sulfur limit the wet scrubber shall be inspected and corrective action shall be taken within 24 hours.
- The Chemi-Washer system is subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the and “Enclosures and Closed Vent Systems” section.
- A chlorine, chlorine dioxide, and particulate matter emission test shall be performed at least once every five years to certify compliance and set periodic monitoring parameters.

Changes During the Third Title V Renewal:

- Citations to Rule 335-3-14-.02 have been corrected to Rule 335-3-16-.05 or the appropriate regulation.
- All references of the Department granting alternative test methods have been removed from the permit.
- Corrected citations from Rule 335-3-14 to Rule 335-3-16-.05 as the unit did not go through PSD permitting nor take synthetic minor limits.

MACT I Sources

Pulping System Processes

LVHC gases from the digesters, evaporators, blow heat recovery system, and condensate collection systems are collected and incinerated in the No. 3 Lime Kiln or Backup NCG Incinerator. The gases must be conveyed in a system that meets the requirements of 40 CFR 63.450. HVLC gases are exempt from collection requirements since the Mill complies with a clean condensate alternative (CCA) pursuant to 40 CFR Part 63.447. For the CCA, the Mill must demonstrate that emission reductions are greater than would have been achieved through compliance with the HVLC requirements. The CCA requirements are listed in the Process Condensates section below.

Pulping Process Condensate Collection System

The Naheola Mill collects the pulping process condensates from the equipment systems that in total contain a HAP mass of 11.1 lb/ton ODP pursuant to 40 CFR 63.446(c)(3). Condensate streams from the digester system, turpentine recovery system, evaporator system, and NCG collection lines have been identified to meet the mass collection requirement consistent with the requirements of 40 CFR 63.466(b) and (c)(3). On August 13, 2004, the Department accepted the Mill's proposed CCA. Under the CCA, GPN would collect condensates from an additional evaporator effect and the liquor heater. The Mill would also be required to treat an additional 1.0 lb/ton ODP to offset emission reductions from the control of HVLC gases. In 2017, the Mill re-established monitoring parameters for demonstrating compliance with the condensate collection requirements and the CCA.

The effluents from the various mill processes are combined prior to treatment, except the kraft pulping condensates, which are hard-piped directly into the aerated stabilization basin (ASB) to remove methanol and other HAPs. The effluent flows from the ASB into the polishing ponds for additional removal of suspended solids. The treated effluent leaves the polishing ponds and is discharged via permitted outfalls into the Tombigbee River.

Control Equipment:

The pulping Process Condensate Collection System discharges the collection stream into a biological treatment aerated lagoon. Total HAP is reduced by at least 92% by weight or at least 10.2 lb HAP/ODTP is removed. The CCA requires a total of 11.2 lb HAP/ODTP to be treated.

Emission Limits and Proposed Periodic Monitoring:

The Pulping Process Condensate Collection System is subject to:

- The applicable requirements of Federal National Emission Standards for Hazardous Pollutants Subpart S for HAPs

The Pulping Process Condensate Collection System has the following monitoring requirements:

- Periodic monitoring for the process condensate collection system includes records of visual inspections, records of pounds MeOH/ODTP, records of total horsepower, and quarterly compliance tests to be submitted.

Enclosures and Closed-Vent Systems

LVHC gases are routed to either the lime kiln or the backup NCG incinerator through the enclosures and closed vent systems. The system is subject to the requirements found in 40 CFR 63.450. The Mill must perform monthly leak detection and repair (LDAR) inspections and annual testing according to 40 CFR 63.457(d) and (e) to ensure all components are operating properly and not leaking.

Storage Tanks

25,000 Gallon Methanol Storage Tank

This tank is subject to the reporting requirements listed in 40 CFR Subpart Kb, and the General Provisos.

Two 6,000 Gallon Gasoline Storage Tanks

These tanks are subject to the Loading and Storage of VOC requirements of ADEM Admin. Code 335-3-6-.03 (2) and the General Provisos.

RICE Units

GP Naheola operates nine stationary Reciprocating Internal Combustion Engine (RICE) units that provide power to different areas of the Mill. These units are identified and described by the following:

- RICE-01 - Lime Kiln Mud Engine; 1992; 32 hp
- RICE-02 - No. 1 Diesel Firewater Pump; 2015; 219 hp
- RICE-03 - No. 2 Diesel Firewater Pump; 2013; 215 hp
- RICE-04 - Telephone Generator; 1994; 135 hp
- RICE-05 - Lime Kiln Auxiliary Drive Engine; 2015; 99.8 hp
- RICE-06 - Water Plant Generator; 1994; 102 hp
- RICE-07 - Powerhouse Generator; 1994; 166 hp
- RICE-08 - Chemical Area Generator; 2019; 304 hp
- RICE-09 – No. 8 Paper Machine Emergency Generator; 2020; 304 hp

All units are emergency use engines, except unit RICE-05 is a non-emergency use engine. RICE-01, RICE-08, RICE-09 are spark ignition engines driven by gasoline or natural gas. Units RICE-02 – RICE-07 are compression ignition engines driven by diesel. The Mobile Wood Chipping Unit is no longer in use at the Mill and has been removed from the MSOP during the third renewal. Air Permit 101-0001-X044 was issued on June 1, 2018, for replacement of the Chemical Area Generator. Air Permit 101-0001-X046 was issued on April 15, 2020, for installation of the No. 8 Paper Machine Emergency Generator. These Air Permits have been incorporated into the MSOP during the third renewal. Based on year, size, and purpose, the units are subject to the following regulations:

- Units RICE-01 through RICE-09 are subject to the applicable requirements of ADEM Admin. Code R. 335-3-11-.06 (103), “National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Hazardous Air Pollutant (HAP) Emissions from Stationary Reciprocating Internal Combustion Engines” (40 CFR Part 63 Subpart ZZZZ).
- Units RICE-02, RICE-03, and RICE-05 are subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02 (87), “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” (40 CFR Part 60 Subpart IIII).
- Units RICE-08 and RICE-09 are subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02 (88), “Standards of Performance for Stationary Spark Ignition Internal Combustion Engines” (40 CFR Part 60 Subpart JJJJ).

NESHAP ZZZZ and NSPS IIII require these units to adhere to the following standards:

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
RICE-01 through RICE-09	All Units	Opacity	Shall not exceed 20% based on 6-minute average, except one 6-minute period in every 60-minute period it shall not exceed 40%	Rule 335-3-4-.01
RICE-01	Lime Kiln Mud Engine	HAPs	a) Change oil and filter every 500 hours of operation or annually, whichever comes first; b) Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Rule 335-3-11-.06 (103)

RICE-04, RICE-06, RICE-07	Telephone Generator, Water Plant Generator, Powerhouse Generator	HAPs	a) Change oil and filter every 500 hours of operation or annually, whichever comes first; b) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Rule 335-3-11-.06 (103)
RICE-02, RICE-03	No. 1 Diesel Firewater Pump, No. 2 Diesel Firewater Pump	Multiple	NMHC + NO _x : 3.0 g/hp-hr CO: 2.6 g/hp-hr PM: 0.15 g/hp-hr	Rule 335-3-10-.02 (87)
RICE-05	Lime Kiln Auxiliary Drive Engine	Multiple	NMHC: 0.19 g/kW-hr NO _x : 0.40 g/kW-hr CO: 5.0 g/kW-hr PM: 0.02 g/kW-hr	Rule 335-3-10-.02 (87)
RICE-08	Chemical Area Generator	Multiple	NO _x : 2.0 g/hp-hr CO: 4.0 g/hp-hr VOC: 1.05 g/hp-hr	Rule 335-3-10-.02 (88)
RICE-09	No. 8 Paper Machine Emergency Generator	Multiple	NO _x : 2.0 g/hp-hr CO: 4.0 g/hp-hr VOC: 1.05 g/hp-hr	Rule 335-3-10-.02 (88)

CAM

CAM applies to pollutant specific emission units that are subject to an emission limitation or standard where a control device is used to achieve compliance with an applicable emission limitation. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. The following units are subject to the CAM rule: Chemi-Washer, Chlorine Dioxide Generator, No. 4 Smelt Dissolving Tank, No. 3 Lime Kiln, and NCG Incinerator. The other units fall under one of the several exemptions as defined by 40 CFR 64.2(b).

The following are the exemptions that apply to one or more emission units operated by the mill:

- The requirements of 40 CFR Part 64 shall not apply to emission limitations or standards proposed by EPA after November 15, 1990, pursuant to section 111 or 112 of the Clean Air Act (40 CFR 64.2(b)(1)(i));
- The requirements of 40 CFR Part 64 shall not apply to emission limitations or standards for those unit that do not uses a control device to achieve compliance with any such emission limitation or standard;
- The requirements of 40 CFR Part 64 shall not apply to emission limitations or standards for those units where the pre-controlled emissions of specific pollutants would not classify unit as a major source; and
- The requirements of 40 CFR Part 64 shall not apply to emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method (40 CFR 64.2(b)(1)(vi)).

For the units that are subject to CAM, the Title V Permit currently requires continuous monitoring, which satisfies the CAM rule that requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations.

- Chemi-Washer (PM, Cl) – continuous monitoring of the TRS is used as indicator of scrubber performance;
- Chlorine Dioxide Generator (Cl) – continuous monitoring of pH and operating status of recirculation pump;
- No. 4 Smelt Dissolving Tank (TRS, SO₂) - continuous monitoring of black liquor flow rate and scrubber liquid flow rate;
- No. 3 Lime Kiln (SO₂) – continuous monitoring of scrubber recirculation flow rate and pH;
- NCG Incinerator (SO₂) – continuous monitoring of scrubber recirculation flow rate and pH.

Fugitive Dust Plan

A fugitive dust plan was submitted on March 23, 2023, and will be incorporated into the Title V MSOP during the third renewal.

Environmental Justice

An Environmental Justice analysis was performed utilizing EPA's EJSCREEN tool and the Council on Environmental Quality's (CEQ) Climate and Economic Justice screening tool (Justice 40). This permit is for an existing facility, and no modifications or increases in emissions will result from the issuance of this permit; therefore, it was determined that enhanced outreach is not necessary.

Recommendation

The renewal Major Source Operating Permit (101-0001) shall be issued with the requirements above pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.