Preliminary Determination

Georgia Pacific Alabama River Cellulose Mill
106-0010
No. 7 Mill Transformation Project

On December 27, 2024, Georgia Pacific Alabama River Cellulose Mill (ARC or the Mill) submitted an Air Permit application to the Department. A number of updates and revisions to the application were received and a final application was received on July 25, 2025. The project is intended to increase efficiency and reliability of the No. 7 Mill and optimize production. Details of the proposed changes are described below. ARC, located in Perdue Hill, Alabama (Monroe County), is a major source under both the Title V operating program and Prevention of Significant Deterioration (PSD) program.

No. 7 Pulp Mill Changes

The Mill plans on replacing the existing two continuous digesters with one new continuous digester in the No. 7 Mill. The new digester would have a larger capacity than the two existing units and be able to produce up to 79.1 air-dried tons of unbleached pulp per hour (ADTUBP/hr). Gases from the new digester would be collected in the existing low volume, high concentration (LVHC) or high volume, low concentration (HVLC) systems. A number of ancillary digester equipment would be updated, including:

- Replacement of the two existing digester chip bins with a new chip bin.
- The Digester Chip Conveyor 3 will be removed as it feeds the existing chip bins, and the Digester Chip Conveyor 2 will be modified to reach a new Air Lock Screw Conveyor, which will feed the new chip bin.
- The two existing digester pre-steamers will be removed.
- A new chip meter will be installed and convey chips to the new digester.
- A new digester evaporator will be installed to evaporate water and produce steam for the new digester's vapor zone.
- The two existing flash tanks will be replaced with a new flash tank.
- The existing blow tank will be repurposed (discussed below) and a new blow tank will be installed.
- A new foul condensate tank will be installed.

In order to accommodate the increased digester capacity, the following changes are proposed in the brown stock washer line:

- The three existing pressure knotters will be replaced with a new primary pressure knotter.
- The two existing secondary knotters will be replaced with a new secondary knotter.
- A new knotter accepts tank and knot conveyor will be added.
- The existing knot press will be removed.
- As mentioned above, the existing blow tank will be repurposed into a brown stock transfer tank.
- The primary and secondary screens will be modified to increase flow through the system.
- A new quaternary screen and shive cleaner will be added.

No.7 Bleach Plant Changes

The bleach plant would be modified to accommodate the increased pulp production. Following the modifications, the No. 7 Bleach Plant would be rated at a capacity of 72.8 air dried tons of bleached pulp per hour (ADTBP/hr). Physical modifications are expected for each stage of the bleaching system, which may include installation of a vacuum assist or drop leg modification and pump and motor upgrades and/or replacements.

No. 7 Pulp Dryer Changes

The existing pulp dryer would be replaced with a new dryer with a rated capacity of 80.2 air dried ton of finished paper per hour (ADTFP/hr).

No. 7 Recovery Area Changes

The existing multiple effect evaporator system will be modified to replace the falling film surface condensers on the concentrators to improve reliability. Also, the precipitator mix tank will be modified to receive intermediate black liquor from the No. 7 Mill's Intermediate Liquor Storage Tank. The intermediate black liquor will then combine with ash from the precipitator and will feed the falling film evaporator.

No. 7 Recausticizing Area Changes

The following changes are proposed to the No. 7 Recausticizing area to support the increased production of the project:

- The existing slaker and scrubber will be replaced with a new slaker and scrubber.
- A new causticizer will be added following the causticizer sump tank.
- A white liquor pressure disk filter, lime mud storage tank, shrink tank, and acid tank will be installed.
- The Nos. 1 and 2 Green Liquor Clarifiers will be modified.
- The No. 1 White Liquor Clarifier will be converted to a Grean and White Liquor Swing Tank.
- The No. 2 White Liquor Clarifier will be converted to a white liquor storage tank and will be referred to as the No. 2 White Liquor Storage Tank.
- The Lime Mud Mix Tank will be permanently removed from service.
- The Weak Wash Clarifier will be converted to a weak wash storage tank.
- The No. 7 Lime Kiln will be modified to increase efficiency and capacity. The proposed capacity would be 19.3 tons of lime per hour (TCaO/hr). Physical changes include replacement of the lime mud feed conveyor and natural gas burner and installation of a flash dryer and rotary cooler. The new natural gas burner will have a maximum firing rate of 127 million British thermal units per hour (MMBtu/hr). The lime kiln will retain the ability to incinerate LVHC gases. Additionally, the existing wet scrubber will be replaced with an electrostatic precipitator (ESP).
- The existing in-line lime product crusher and enclosed belt conveyor will be replaced.

No. 8 Pulp Mill Changes

Selected upgrades to the No. 8 Mill have been proposed to support the increased production of the No. 7 Mill side. These changes include:

- An intermediate black liquor storage tank will be installed to facilitate transfer of black liquor between the No. 7 and No. 8 Mills.
- The No. 8 Multiple Effect Evaporator will be modified to increase its capacity to 160.1 tons of black liquor per hour (TBLS/hr). Physical modifications would include the addition of two additional effects (one in parallel with an existing effect), a black liquor heater, and other changes.
- The No. 8 Recovery Furnace will be modified to increase the capacity to burn black liquor solids at a maximum rate of 156.3 TBLS/hr. The increased capacity will also help meet the increased steam demand for the No. 7 Mill.
- The Mill plans to replace the No. 8 Smelt Dissolving Tank in a separate, unrelated project. However, since this project would share funding with the modifications to increase the smelt tank capacity, these projects have been aggregated for the federal applicability analysis. As part of the No. 7 Mill Transformation project, the No. 8 Smelt Dissolving Tank scrubber would be replaced, a tube condenser would be added, and the resulting exhaust would normally be routed into the No. 8 Recovery Furnace.
- Foul condensates from the No. 7 Digester Area would be able to be routed to the No. 8 Foul Condensate Tank or directly to the Wastewater Treatment System.
- The existing No. 8 Soap Skimmer Tank will be replaced with two new tanks. The new tanks were previously used as biodiesel storage tanks but have been out of service for several years.

Crude Tall Oil Plant Changes

The Mill plans to replace or modify the existing tall oil reactor, associated equipment, and scrubber to increase the production of tall oil. Additionally, the scrubber exhaust from the new or modified Tall Oil Plant would be collected and treated as part of the HVLC system. The modified or new tall oil plant would be able to produce up to 7.6 tons of tall oil per hour (TTO/hr) to accommodate the increased black liquor production following the upgrades to the No. 7 Mill. ARC has evaluated the Tall Oil Plant and associated equipment as a new/modified source as part of this project.

No. 7 Turpentine Plant Changes

The existing turpentine decanter will be replaced with a new decanter. A new turpentine storage tank, under flow tank, and turpentine loading station will be added that will be dedicated to the No. 7 Decanter. The existing storage tank and loading station, currently shared between the No. 7 and 8 Decanters, will be dedicated to operation with the No. 8 Decanter.

Administrative Changes

ARC has proposed to clarify the following items that are unrelated to this project:

- Update the operating capacity for the No. 7 Power Boiler to 598.4 MMBtu/hr from 504 MMBtu/hr. This update is requested to match the original design documents of the boiler. It appears the capacity was inadvertently listed as 504 MMBtu/hr and the Mill has demonstrated compliance during stack testing at firing rates above 504 MMBtu/hr. No changes to any emission limit are proposed as part of this request.

- Similarly, ARC believes the operating capacity of the No. 8 Lime Kiln natural gas burner is 145 MMBtu/hr rather than 103 MMBtu/hr. The potential to emit (PTE) calculations for greenhouse gases (GHGs) are based on the higher gas firing rate. The lime production capacity will remain the same for the No. 8 Lime Kiln and no changes to any emission limit are proposed as part of this request.

Future Netting Projects

There are a few projects that are under consideration for concurrent implementation with the No. 7 Mill Transformation Project. However, these projects are both technically and economically independent from the proposed project in this application. These future projects are detailed in the following section with the other netting projects.

Emissions

In order to determine whether the No. 7 Mill Transformation Project would be considered a major modification, ARC has used the hybrid test for projects that involve multiple types of emissions units as referenced in ADEM Admin. Code 335-3-14-.04(1)(i). The definition of a "major modification" is found in ADEM Admin. Code R. 335-3-14-.04(2)(b)(1) and it reads as follows: A Major Modification "shall mean any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any regulated NSR pollutant." Under the hybrid test, the actual to projected actual applicability test was used for existing units and the actual to potential test was used for new units.

The emission factors used to calculate emissions from this project were obtained through various means, including: the National Council for Air and Stream Improvement, Inc. (NCASI), U.S. EPA's AP-42 Compilation of Air Emission Factors, U.S. EPA's Mandatory Reporting Rule (MRR), facility stack test data and continuous emissions monitoring system (CEMS) data, vendor guarantees and estimates, and other sources of emission data (e.g. emission limits, mass balances, or other published information). It is the Department's position that site-specific tests and CEMS data provide the best representation of emissions from the Mill. However, when data gaps are present, the best available emission factors should be used.

ARC has determined its baseline actual emissions (BAE) in accordance with ADEM Admin code 335-3-14-.04(2)(uu)2., which allows BAE to be set for each pollutant during a consecutive 24-month period in the 10 year contemporaneous period. The Mill calculated the BAE for the 10 year period beginning in January 2015. The 24-month baseline period that was selected for each pollutant is presented in **Table 1** below. BAE for new units are set to zero.

Table 1: *Baseline Periods for Pollutants*

Pollutant	24-Month Period
Filterable PM	January 2018 – December 2019
Total PM_{10}	May 2017 – April 2019
Total $PM_{2.5}$	January 2017 – December 2018
SO_2	January 2015 – December 2016

NOx	January 2020 – December 2021
CO	January 2016 – December 2017
VOC	June 2019 – May 2021
SAM	May 2022 – April 2024
Lead	May 2016 – April 2018
H_2S	July 2019 – June 2021
TRS	June 2019 – May 2021
Total GHG	June 2019 – May 2021
Total GHG as CO_2e	June 2019 – May 2021

Under the PSD permitting program, emissions increases are calculated differently for new and existing emission units. ARC has elected to use the hybrid applicability test that uses the actual-to-projected actual applicability test for the existing units and the actual-to-potential test for new units. The emissions from sources affected by the proposed project have been determined based on the expected increase in utilization.

Potential to emit (PTE) emissions are defined in ADEM Admin code 335-3-14-.04(2)(d) as the emissions based on the maximum capacity of a unit under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emission is enforceable. The PTE was calculated for the following units based on the design capacity following the proposed project:

- Transfer of chips to the Air Lock Screw Conveyor
- No. 7 Mill Chip Bin
- No. 7 Mill Continuous Digester
- No. 7 Mill Flash Tank
- No. 7 Mill Digester Area Foul Condensate Tank
- No. 7 Mill Digester Evaporator
- No. 7 Mill Blow Tank
- No. 7 Mill Knotter System
- No. 7 Mill Chip Meter
- No. 7 Mill Quaternary Screen
- No. 7 Mill Shive Cleaner
- No. 7 Mill Pulp Dryer
- No. 8 Mill Soap Skimmer Tanks
- No. 8 Mill No. 2 Intermediate Black Liquor Storage Tank
- No. 8 Smelt Dissolving Tank
- No. 7 Mill Slaker
- No. 7 Mill No. 5 Causticizer
- Tall Oil Reactor and Ancillary Equipment
- Tall Oil Flah Tower Feed Tank
- No. 7 Turpentine Decanter and Underflow Tank
- No. 7 Turpentine Storage Tank
- No. 7 Turpentine Loading

For modifications on existing units, emission changes were calculated as the difference between the future projected actual emissions (PAE) and the BAE. PAE are defined in ADEM Admin. Code 335-3-14-.04(2)(nn) as the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated pollutant in any one of the 5 years (consecutive 12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase. PAE for the No. 7 Mill were based on a production rate of 1,725 ADTUBP/day and 355 days of operation per year. The expected production rates of upstream and downstream units were based on engineering design information and historical relationships between production parameters.

Due to the number of new units and changes at the Mill, ARC has chosen not to evaluate could have accommodated (CHA) emissions from modified and affected units as defined in ADEM Admin. Code 335-3-14-.04(2)(nn)2.(iii).

A summary of the project emissions is shown in **Table 2** below.

Table 2: *Project Emissions*

Pollutant	**Emissions Increase (tpy)**
Filterable PM	225.53
Total PM_{10}	495.51
Total $PM_{2.5}$	445.31
SO_2	39.79
NOx	774.54
CO	1,990.82
VOC	270.31
SAM	130.49
Lead	9.25E-04
H_2S	42.42
TRS	40.50
Total GHG as CO_2e	584,287

The Mill also calculated the net emissions increases as outlined in ADEM Admin. Code 335-3-14-.04(2)(c) for all pollutants except SO_2 and lead due to the project emissions being below significant levels. The netting analysis involves accounting for creditable emissions increases and decreases within the contemporaneous period. The contemporaneous period is defined as the date five years prior to the beginning of construction on the project and the date the emission increase from the project occurs. The Mill plans to begin construction on this project in September 2025, and operation of the last change is expected in April 2027. Therefore, the contemporaneous period would begin in September 2020 and end when the projects are complete. The individual projects included in the netting analysis are detailed below.

- September 2021: The Mill replaced the cold zone chain system on the No. 8 Lime Kiln in September 2021. Since the No. 8 Lime Kiln is an affected unit under this project and to prevent double counting of emissions increases, the Mill has calculated the PTE of the No. 8 Lime Kiln following both projects and subtracted the BAE prior to implementation of both projects.
- March 2022: On January 18, 2022, ARC applied to replace the No. 4 Brown Stock Washer Vat. Since this project occurred after the BAE periods and the PTE emissions are calculated following both the 2022 and current projects, the emissions from the 2022 project would be included in the emissions analysis for this project.
- September 2022: On September 9, 2022, ARC applied to replace the lower furnace walls on the No. 8 Recovery Furnace. Similar to the No. 8 Lime Kiln, the No. 8 Recovery Furnace is an affected unit under this project. The Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.
- September 2022: On September 6, 2022, ARC applied to replace the shell of the No. 8 Lime Kiln and complete additional maintenance items related to the replacement. As discussed above, the Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.
- September 2022: On June 29, 2021, ARC applied for a project to improve turpentine recovery in the No. 8 Mill. The contemporaneous project emissions increase is calculated as the PTE emissions minus BAE for this project's affected sources.
- November 2022: On September 23, 2022, ARC applied to bring onsite two temporary rental boilers over the winter months to aid in steam supply. The No. 2 Rental Boiler was brought onsite in November 2022. On March 23, 2023, ARC applied to keep these rental boilers onsite for an extended period of time. As a result, the No. 2 Rental Boiler was permitted as a permanent boiler on April 27, 2023. The No. 2 Rental Boiler was subsequently replaced in January 2025 with a new permitted unit. This unit was then removed from service in April 2025. As a result, the original unit's PTE emissions and BAE are applied to the netting analysis and the 2025 replacement unit's emissions change is set as zero since the unit is considered "new" under ADEM Admin. Code r. 335-3-14-.04(2)(uu)3.
- Spring 2023: On February 16, 2023, ARC applied to replace the No. 7 Bleach Plant's D0 Washer Drum and Vat. Similar to the No. 8 Lime Kiln and No. 8 Recovery Furnace, the No. 7 Bleach Plant is an affected unit under this project. The Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.
- June 2023: On April 24, 2024, ARC applied to install a new emergency engine in the chemical preparation area. Since this unit is less than two years old, the BAE are set equal to PTE pursuant to ADEM Admin. Code 335-3-14-.04(2)(uu)3.
- June 2023: On March 23, 2023, ARC applied to keep two rental boilers onsite for an extended period of time. As a result, the No. 1 Rental Boiler was permitted as a permanent boiler on April 27, 2023. Since this unit is less than two years old, the BAE are set equal to PTE pursuant to ADEM Admin. Code 335-3-14-.04(2)(uu)3. The No. 2 Rental Boiler's emissions are detailed above.
- March 2024: On February 29, 2024, ARC applied to replace the 1st ClO_2 Washer Vat and the 2nd Caustic Washer Vat in the No. 7 Bleach Plant. As discussed above, the

No. 7 Bleach Plant is an affected unit under this project. The Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.

- March 2024: On February 23, 2024, ARC applied to upgrade the screening system on the No. 7 Line. Similar to the No. 8 Lime Kiln and No. 8 Recovery Furnace, the No. 7 Line is an affected unit under this project. The Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.
- June 2024: On November 8, 2023, ARC applied to install a bypass line for pulp to bypass the bleach plant and allow the Mill to make small quantities of unbleached kraft pulp. The contemporaneous project emissions increase is calculated as the PTE emissions minus BAE for this project's affected sources.
- September 2024: On April 24, 2023, ARC applied to replace the No. 8 Digester low pressure feeder (LPF). The LPF replacement project affected a number of units at the Mill. For units not affected by the No. 7 Mill Transformation Project, the contemporaneous net emissions are calculated as the PTE minus BAE. For units affected under the No. 7 Mill Transformation Project, the LPF replacement occurred after the BAE periods and the emissions changes are included in the emissions analysis for the No. 7 Mill Transformation Project.
- September 2024: On August 13, 2024, ARC applied to replace the economizer and lower furnace wall panels on the No. 8 Recovery Furnace. As discussed above for the No. 8 Recovery Furnace, the Mill evaluated PTE emissions following the current project and subtracted the BAE prior to the netting projects.
- December 2024: On November 26, 2024, ARC applied for a temporary No. 3 Rental Boiler for use over the winter months. Since this unit is less than two years old, the BAE are set equal to PTE pursuant to ADEM Admin. Code 335-3-14-.04(2)(uu)3.
- April 2025: On March 4, 2025, ARC applied to install a transfer line to allow a portion of unbleached pulp to be shared from the No. 8 Line to the No. 7 Line. Emissions from this project were negligible and would not allow either line to operate above the projected actual emissions in this application. Therefore, emissions from this project are not accounted for in the netting analysis.
- Future: On November 15, 2024, ARC applied to replace the existing wood fired No. 8 Power Boiler and associated units (e.g. ash storage, bark bins, and bark transfer systems) with a new natural gas only boiler. The Mill has also retired the permitted Nos. 1 and 2 Rental Boilers. The Mill has applied the PTE emissions and BAE for the original No. 2 Rental Boiler as it was installed in 2022 and replaced in January 2025 (subsequently removed in April 2025). The Mill has not taken an emissions credit for the shutdown of the replacement No. 2 Rental Boiler or any remaining rental boilers since they are considered new units as described above. The emissions from the No. 8 Power Boiler replacement project have been applied to the netting analysis.
- Future: The Mill is evaluating options to eliminate the use of the Backup NCG Incinerator. The Backup NCG Incinerator is currently used as the secondary incineration point for LVHC gases, with the Nos. 7 and 8 Lime Kilns acting as the primary incineration point. It is likely that the Nos. 7 and 8 Recovery Furnaces will become the primary incineration point for their respective mills' LVHC gases with the Nos. 7 and 8 Lime Kilns becoming the secondary incineration point. The lime

kilns would also have the ability to incinerate gases from the other's respective mill. As a conservative estimate, ARC has applied the associated emissions increase from burning LVHC gases in the Nos. 7 and 8 Recovery Furnaces but has not taken an emissions decrease credit for the shutdown of the Backup NCG Incinerator. Additionally, the Mill based future emissions on the continued use of the Backup NCG Incinerator in case the elimination project is not approved.

There are a few projects not included in the netting analysis for various reasons as discussed below.

- On October 29, 2021, September 23, 2022, and November 26, 2024, ARC applied to bring onsite temporary rental boilers for use during winter months. The temporary periods these boilers were onsite did not exceed six months, with the exception of the permitted rental boilers discussed above. Since all temporary units have been or will have been onsite less than two years, no emissions associated with these units are applied to the netting analysis.
- In the Spring of 2021, the Mill replaced the No. 7 Lime Mud Precoat Filter and in Spring 2022, the Mill replaced the No. 7 Mill Green Liquor Dregs. Since the Mill only uses fresh water in the No. 7 causticizing area, there is no expected organic emissions from this area as indicated by NCASI. Furthermore, there are no expected emissions besides organics from the precoat filters and dregs filters. As a result, no emissions from this project are included in the netting analysis.
- On December 16, 2022, ARC applied for a clean condensate alternative (CCA) to offset emissions from the No. 8 Oxygen Delignification Surge Tank as approved on June 23, 2022. This project did not authorize any physical or operational changes at the Mill. As a result, this action is not included in the netting analysis.
- In 2024, the Mill installed new roll equipment to all the No. 7 Mill to produce both baled and rolled fluff pulp. This project did not affect any upstream units or affect production, and the roll line is not a source of emissions. As a result, there was no increase in emissions and no emissions are applied to the netting analysis from this project.

A summary of the emissions related to this project and the impact of the netting analysis can be found in **Table 3** below. As seen in table, this project will require a PSD review for filterable particulate matter (FPM), total particulate matter with a diameter of 10 micrometers or less (PM_{10}), total particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), sulfuric acid mist (SAM), hydrogen sulfide (H_2S), total reduced sulfur (TRS), and greenhouse gases (GHG).

Table 3: *Emissions Summary Including Contemporaneous Projects (tpy)*

Pollutant	Net Emissions Increase (tpy)	PSD Significant Threshold	PSD Applicable
Filterable PM	482.07	25	Yes
Total PM_{10}	607.94	15	Yes
Total $PM_{2.5}$	510.10	10	Yes
SO_2	-	40	No

NOx	805.67	40	Yes
CO	3,547.80	100	Yes
VOC	844.48	40	Yes
SAM	244.69	7	Yes
Lead	-	0.6	No
H_2S	47.38	10	Yes
TRS	116.78	10	Yes
Total GHG as CO_2e	923,061	75,000	Yes

Although there will not be a significant emission increase for SO_2 emissions, there is a reasonable possibility of exceeding the significant thresholds. Since there is a reasonable possibility of exceeding these thresholds, the Mill will be required to submit a yearly report with the information as outlined in 335-3-14-.04(17)(e)4. for a period of 10 years following resumption of regular operation after the change.

It is noted that under ADEM Rule 335-3-14-.04(2)(c)(2)(ii) and 335-3-14-.04(2)(u)(2), it is the Department's position that any emissions change from sources previously permitted and having specific pollutant limitations through PSD permitting would not need to be considered if the source is an affected source. Any change in emissions would need to be accounted for if the source was being modified. Although this is the Department's position, ARC has conservatively evaluated all emission changes from such affected sources and these emissions are reflected in the emissions analysis.

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

Implementation of this project will potentially make the following NSPS's applicable for the new and modified sources at the Mill:

- Subpart A, NSPS General Provisions
- Subpart D, Standards of Performance for Fossil-Fuel-fired Steam Generators
- Subpart Da, Standards of Performance for Electric Utility Steam Generating Units
- Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
- Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
- Subpart Kb. Standards of Performance for Volatile Organic Liquid Storage Vessels
- Subpart Kc, Standards of Performance for Volatile Organic Liquid Storage Vessels
- Subpart BB, Standards of Performance for Kraft Pulp Mills
- Subpart BBa, Standards of Performance for Kraft Pulp Mills
- Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants

Subpart A establishes requirements for initial notification and performance testing, recordkeeping, monitoring, provides reference methods and mandates general control device requirements for all other subparts as applicable. Any affected sources subject to a specific NSPS would be subject to the general provisions of Subpart A, unless excluded by the source specific NSPS.

Subpart D regulates steam generating units capable of firing fossil fuels at a heat input rate of more than 250 MMBtu/hr that commenced construction or modification after August 17, 1971. 40 CFR 60.40b(j) states that any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986, is not subject to Subpart D. Since any construction, modification, or reconstruction as a result of this project will be after June 19, 1986, Subpart D will not apply to any modified source associated with this project. The No. 7 Power Boiler is currently subject to Subpart D and will continue to comply with the rule as before this project.

Subpart Da is applicable for electric utility steam generating units that are capable of combusting more than 250 MMBtu/hr heat input of fossil fuel, either alone or in combination with any other fuel for which construction, modification, or reconstruction commences after September 18, 1978. 60.41Da defines electric utility steam generating unit as any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Also, any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is considered in determining the electrical energy output capacity of the affected facility. The No. 8 Recovery Furnace is the only modified steam generating unit in this application and will supply steam to the existing turbine generators for generating power used on site. However, this unit will not supply more than one-third of its potential electric output capacity or more than 25MW of electrical output for sale on the general power grid. Therefore, Subpart Da will not be applicable to any new or modified units as a result of this project.

Subpart Db regulates steam generating units that commence construction, modification, or reconstruction after June 19, 1984, that have a heat input of greater than 100 MMBtu/hr.

The No. 7 Power Boiler is currently subject to the requirements of Subpart D. The description of the boiler will be updated to reflect a higher capacity to match the original design capacity of the unit. Since the Mill will be able to achieve the higher listed production rate without capital expenditure, this would not be considered a modification pursuant to 40 CFR Part 60.14(e)(2). Since the power boiler would not be modified or reconstructed as part of this project, Subpart Db would not apply. The No. 7 Power Boiler will continue to be subject to Subpart D.

The No. 8 Recovery Furnace will be potentially subject to Subpart Db since physical modifications are proposed to increase its capacity. The No. 8 Recovery Furnace was modified in 2004 and is currently subject to Subpart Db as its heat input capacity is greater than 100 MMBtu/hr. To be considered reconstructed under Subpart Db, the fixed capital cost of the project must exceed 50% of the fixed capital cost to construct a new unit. The estimated cost for the changes proposed is approximately $50 million dollars compared to $405 million dollars for a new recovery furnace. Therefore, reconstruction is not triggered by this project. A modification under Subpart Db is defined as any physical change in, or

change in method of operation of, the unit that increases emissions rates to which an emission standard applies. Subpart Db has established emission standards for PM, NOx, and SO_2. The No. 8 Recovery Furnace is subject to NOx and SO_2 limits under Subpart Db but is subject to the PM limit under Subpart BB and discussed below. With the proposed changes in the project, the maximum hourly rates of NOx and SO_2 are expected to increase on the No. 8 Recovery Furnace. However, since the unit is already considered a modified source under Subpart Db, there would be no change in the requirements of Subpart Db. ARC will continue to comply with Subpart Db as before the project.

Subpart Dc regulates steam generating units with a maximum heat input rate of 29 MW (100 MMBtu/hr) or less, but greater than 2.9 MW (10 MMBtu/hr) that commenced construction, modification, or reconstruction after June 9, 1989. There are no steam generating units in this size range that are being constructed, modified, or reconstructed as part of this project.

Subpart Kb applies to storage vessels with a capacity greater than or equal to 75 m^3 (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, and on or before October 4, 2023. 60.110b(b) states this subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than or equal to 19,813 gallons but less than 39,890 gallons storing a liquid with a maximum true vapor pressure less than 15.0 kPa. Additionally, Subpart Kb specifies process tanks are not considered storage vessels under this subpart. Due to the sizes, vapor pressures, storage capacities, and/or being considered process tanks, Subpart Kb would not apply to any unit affected by this project.

Subpart Kc applies to storage vessels with a capacity greater than or equal to 20,000 gallons that are used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after October 4, 2023. 60.110c(c)(1)-(2) sets applicable requirements for Subpart Kc. Specifically, the subpart applies to storage vessels with a capacity greater than or equal to 151 m^3 (40,000 gallons) storing a liquid with a maximum true vapor pressure equal to or greater than 0.5 psia (3.4 kPa) or with a capacity greater than or equal to 75.7 m^3 (20,000 gallons) but less than 151 m^3 (40,000 gallons) storing a liquid with a maximum true vapor pressure equal to or greater than 1.5 psia (10.3 kPa). Additionally, Subpart Kc specifies process tanks are not considered storage vessels under this subpart. Due to the sizes, vapor pressures, storage capacities, and/or being considered process tanks, Subpart Kc would not apply to any unit affected by this project.

Subparts BB and BBa apply to various process equipment operated at kraft pulp mills. This equipment includes digester systems, brown stock washer systems, multiple effect evaporator systems, recovery furnaces, smelt dissolving tanks, lime kilns, and condensate stripper systems. Subpart BB applies to affected facilities that commence construction, reconstruction, or modification after September 24, 1976, and on or before May 23, 2013. Subpart BBa applies to affected facilities that commence construction, reconstruction, or modification after May 23, 2013. As a result of implementing this proposed project the following equipment will be subject to NSPS Subpart BB or BBa:

- Digester Systems: As part of the No. 7 Mill Transformation Project, the No. 7 digester, flash tanks, blow tank, and condensers will be replaced. As a result, the No. 7 Digester System will be subject to the requirements of Subpart BBa. The process gases from the digester system will need to be collected and incinerated in a lime kiln, recovery furnace, or thermal oxidizer. The chip bin will also be replaced during this project. However, since the chip bin will use fresh steam and be separated from the high-pressure process gases, its process gases would not need to be collected.
- Brown Stock Washer System: The No. 7 Brown Stock Washer System would be modified under this project due to the following new equipment being installed: primary knotter, secondary knotter, knotter accepts tank, and knot conveyor. Since this would meet the definition of modification under Subpart BBa, the No. 7 Brown Stock Washer System would be subject to Subpart BBa. As a result, the process gases will need to be collected and incinerated.
- Multiple Effect Evaporator System: The No. 7 Multiple Effect Evaporator (MEE) will be modified to improve reliability during this project. However, there would be no increase in potential throughput or emissions. Since the No. 7 MEE is currently subject to Subpart BB, it will remain subject to this subpart following the project. The No. 8 MEE will be modified to increase its capacity and is expected to increase the maximum hourly rate of emissions. Therefore, the No. 8 MEE will become subject to Subpart BBa following this project. Subpart BB and BBa require gases from the MEE systems to be collected and incinerated in a lime kiln, recovery furnace, or thermal oxidizer.
- Recovery Furnaces: There would be no physical changes to the No. 7 Recovery Furnace. Therefore, it will continue to be subject to Subpart BB as before the project. The No. 8 Recovery Furnace will be modified to increase the capacity, and emissions are expected to increase on an hourly basis. The No. 8 Recovery Furnace will become subject to Subpart BBa. Subpart BBa establishes emission limits for PM, opacity, and TRS. In addition to emission limits, Subpart BBa requires installation and operation of a continuous opacity monitoring system (COMS) and TRS continuous emissions monitoring system (CEMS). ARC will also have to perform stack testing and continuously monitor secondary voltage and secondary current or total secondary power of each ESP collection field.
- Smelt Dissolving Tanks: There would be no physical changes to the No. 7 Smelt Dissolving Tank. Therefore, it will continue to be subject to Subpart BBa as before the project. The No. 8 Smelt Dissolving Tank will be replaced as part of this project and will be subject to Subpart BBa. Subpart BBa establishes emission limits for PM and TRS for smelt dissolving tanks. ARC will have to perform stack testing and continuously monitor scrubber parameters. It is noted that the No. 8 Smelt Dissolving Tank's exhaust will normally be routed back into the No. 8 Recovery Furnace.
- Lime Kiln: The No. 7 Lime Kiln will undergo physical modifications as part of this project. To trigger reconstruction, the fixed capital cost of the project must exceed 50% of the fixed capital cost to construct a new unit. The estimated cost for the changes proposed is approximately $20 million dollars compared to $97 million dollars for a new lime kiln (excluding control device costs). Therefore, reconstruction is not triggered by this project. The maximum hourly PM and TRS

emissions are expected to remain the same or decrease following this project. As a result, the project would not meet the definition of a modification under the NSPS. The No. 7 Lime Kiln will continue to be subject to Subpart BB as before the project.

Subpart OOO applies to operations at fixed or portable nonmetallic mineral processing plants. The No. 7 Mill Transformation Project includes replacement of the crusher associated with the No. 7 Lime Kiln. The crusher processes lime from the kiln prior to storage in the lime silos. The EPA has determined that the processing of lime is not subject to Subpart OOO as lime is no longer considered a non-metallic mineral. Therefore, Subpart OOO would not apply as a result of this project.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

Implementation of this project will potentially make the following NESHAPs applicable for the new and modified sources at the Mill:

- Subpart A – NESHAP General Provisions
- Subpart S – NESHAP from the Pulp and Paper Industry
- Subpart MM – NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills
- Subpart RR – NESHAP for Individual Drain Systems
- Subpart DDDDD – NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Subpart A establishes general provisions for initial notification and performance testing, recordkeeping, monitoring, provides reference methods, and mandates general control device requirements. Any affected sources subject to a specific NESHAP would be subject to the general provisions of Subpart A, unless excluded by the source specific NESHAP.

Subpart S requires a number of pulping process air emissions and process condensates to be collected and controlled at mills that are considered major sources of HAP emissions. All the HAP emission points affected in the pulping and bleaching systems are considered subject to Subpart S. For the proposed project, all of the new and modified equipment would be subject to the standards for existing sources since the cost of the modification ($250 million) of these portions of the process are less than the 50% reconstruction threshold ($600 million). Details of the compliance approach for the new units are listed below:

- No. 7 Mill Chip Bin: As described above in the Subpart BB and BBa section, emissions from the new chip bin will not be collected as fresh steam will be used.
- No. 7 Mill – Chip Meter: Gases from this unit will be collected for control as part of the HVLC system.
- No. 7 Mill Continuous Digester, Flash Tank, Digester Area Foul Condensate Tank, Digester Evaporator, and Blow Tank: Gases from these units will be collected for control as part of the LVHC or HVLC systems.
- No. 7 Mill Primary (Pressure) Knotter, Secondary Knotter, Knotter Drainer, Knotter Accepts Tank, and Knot Conveyor. Emissions from the knotter system are expected to be below the 0.1 pounds HAP per ton oven dried pulp (lb/ODTP) threshold of 40

CFR Part 63.443(a)(1)(ii)(A). However, the mill plans to collect gases from these units for control as part of the HVLC system.

- No. 7 Mill Quaternary Screen, Shive Cleaner, No. 7 Mill Primary and Secondary Screens: The emissions from these units are not expected to be above the 0.2 lb/ODTP threshold of 40 CFR Part 63.443(a)(1)(ii)(B). The Mill will need to conduct initial testing pursuant to 40 CFR Part 63.457 to demonstrate the emission rates are below the threshold.
- No. 7 Bleach Plant emissions from each bleaching stage where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements of 40 CFR Part 63.445(c). Additionally, the Mill must comply with 40 CFR 430 (§63.445(d)(1)) or use no hypochlorite or chlorine for bleaching in the bleaching system to reduce chloroform emissions.
- No. 7 Turpentine Decanter and No. 7 Turpentine Storage Tank: Gases from these units will be collected for control as part of the LVHC system.
- No. 7 Mill Blow Tank: This tank is currently collected as part of the LVHC system. However, as part of this project it will be repurposed into the No. 7 Brown Stock Transfer Tank and will be collected for control as part of the HVLC system.
- Condensates: Following completion of this project, ARC will need to complete a methanol recharacterization study to determine necessary streams to monitor and demonstrate compliance with the methanol collection and destruction requirements of 40 CFR Part 63.446(c)(3). Condensate streams from the digester, turpentine recovery, evaporator, HVLC, and LVHC systems will need to be a part of this study.

Subpart MM establishes emission limitations for chemical recovery combustion sources at pulp mills that are considered major sources of HAP emissions. Subpart MM currently applies to all recovery furnaces, smelt dissolving tanks, and lime kilns at the Mill. As part of this project, the No. 7 Lime Kiln and No. 8 Recovery Furnace are being physically modified as part of this project. Neither of these units would be considered new units and will continue to be subject to the existing unit standards under Subpart MM. Although the No. 7 Lime Kiln would still be considered an existing source, ARC will replace the existing wet scrubber with an ESP. As a result, a 20% opacity standard would apply, and ARC would need to maintain proper operation of the ESP's automatic voltage controller (AVC). The No. 8 Smelt Dissolving Tank will be replaced and will be considered a new source under this subpart. Therefore, the 0.12 lb/ton BLS for PM would apply to the No. 8 Smelt Dissolving Tank. It is noted that the No. 8 Smelt Dissolving Tank's exhaust will normally be routed back into the No. 8 Recovery Furnace.

Subpart RR applies to the control of air emissions from individual drain systems for which another subpart references. Since Subpart RR is referenced for kraft condensate collection systems under Subpart S, Subpart RR would apply and will be addressed under the requirements of Subpart S.

Subpart DDDDD applies to boilers and process heaters at facilities considered major sources of HAP emissions. As referenced in 40 CFR Part 63.7491(b), recovery furnaces subject to Subpart MM are exempt from the requirements of Subpart DDDDD. The No. 7 Power

Boiler is currently subject to Subpart DDDDD. However, this project does not propose any changes to the No. 7 Power Boiler. Therefore, the Mill will continue to comply with Subpart DDDDD as before the project.

Best Available Control Technology (BACT)

BACT is an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the PSD program, which the Department determines is achievable by the source. The determination is made on a case-by-case basis, taking into account energy, environmental impacts and other costs. The emission limitation limits the amount of a pollutant that can be emitted or sets equipment specifications, which are individualized for a particular source. ARC has elected to follow the "top-down" approach in determining BACT for this proposed modification. This approach identifies the most stringent or top-level technology and emission limits for the process in question and requires the applicant to provide a basis for elimination of this technology. Elimination may be based on technical feasibility and/or economic considerations. The Mill presented all this information for each process that had to perform a BACT analysis as part of this project. The Department reviewed the listed technologies for each source to ensure that each technology that was rejected due to technical feasibility was justifiable. Each process of the project that will be subject to the PSD review will be discussed below and BACT limitations will be presented for each of the pollutants that are applicable.

BACT requires a review of all new or modified emission units from which there is an emissions increase of pollutants subject to PSD review. According to ADEM Administrative Code R. 335-3-14-.04(9)(c), "a major modification shall apply BACT for each regulated NSR pollutant for which it would result in a significant net emission increase at the source. This requirement applies to each proposed emissions unit at which a new increase in the pollutant would occur as a result of a physical change or change in the method of operation in a unit." The pollutant of concern for BACT review for this proposed project is FPM, PM_{10}, $PM_{2.5}$, CO, NOx, VOC, TRS, H_2S, SAM, and GHGs.

The Mill has ranked available control technologies and/or methods for each pollutant, as seen in **Table 4** below. This table does not take into account technical feasibility, which will be addressed in each pollutant section following the table.

Table 4: *BACT Control Rankings*

Pollutant	Control Technology or Method	Control Efficiency	Control Ranking
FPM, PM_{10}, $PM_{2.5}$	Baghouse	95 – 99.9%	1
	ESP	95 – 99%	2
	Wet Scrubber	70 – 90%	3
	Mechanical Cyclone	0 – 99% (by particle diameter)	4
	Good Operating Practices	Varies by Design	5
CO	Thermal Oxidation (Incineration)	95 – 99%	1
	Catalytic Oxidation	95 – 99%	2

	Good Operating Practices / Combustion Controls	Varies by Design	3
TRS, H_2S	Thermal Oxidation (Incineration)	95 – 99%	1
	Wet Scrubber with low/non-sulfide scrubbing material	90 – 98%	2
	Good Design and Operating Practices	Varies by Design	3
SAM	Wet ESP	95 – 99%	1
	Good Operating Practices	Varies by Design	2
NOx	Selective Catalytic Reduction (SCR)	70 – 90%	1
	Oxidation with Subsequent Absorption	60 – 90%	2
	Selective Non-Catalytic Reduction (SNCR)	30 – 50%	3
	Flue Gas Recirculation	30 – 50%	4
	Low Nox Burners	25 – 50%	5
	Good Operating Practices / Combustion Controls	Varies by Design	6
VOC	Thermal Oxidation (Incineration)	95 – 99%	1
	Catalytic Oxidation	95 – 99%	2
	Packed Bed Scrubber	70 – 99%	3
	Condenser Technology	50 – 99%	4
	Carbon Absorption	95 – 98%	5
	Biofiltration	90 – 93%	6
	Good Operating Practices (Includes low VOC materials)	Varies by Design	7
GHGs	Carbon Capture	85 – 90%	1
	Efficient Operating Practices / Maximize use of Biogenic Fuels	Varies by Design	2

From the available control technologies listed above, the Mill has determined which available control technologies listed above would be technically feasible for each of the applicable new or modified sources. The associated table under each pollutant heading lists each applicable unit and whether the control technology would be technically feasible. When the top ranked feasible control technology is not selected, the applicant must demonstrate that the economic, environmental, and energy impacts justify selecting a lower ranked control option.

FPM, PM_{10}, $PM_{2.5}$

Table 4.1: *FPM, PM_{10}, $PM_{2.5}$ Control Technology Feasible?*

Unit	Baghouse	ESP	Wet Scrubber	Mechanical Cyclone	Good Operating Practices
No. 7 Mill Pulp Dryer	N	Y	Y	Y	Y
No. 8 Recovery Furnace	N	Y*	N	Y	Y
No. 8 Smelt Dissolving Tank	N	Y*	Y	Y	Y
No. 7 Mill Slaker	N	N	Y	Y	Y
No. 7 Lime Kiln	N	Y*	Y	Y	Y

*Indicates top-ranked feasible control technology was selected as BACT.

No. 7 Mill Pulp Dryer

The No. 7 Mill Pulp Dryer will be replaced during this project. The dryer uses steam heat and is not a combustion source. The dryer removes excess moisture from the sheet of bleached pulp received from the bleach plant. ARC has determined that an ESP, wet scrubber, mechanical cyclone, and good operating practices are feasible add-on control technologies. The baghouse was removed as a technically feasible option due to the excess moisture in the exhaust stream from the dryer. This would cause the filter media to become "blinded" and would not collect dust efficiently. For similar reasons, a dry ESP would not be technically feasible due to the moisture in the exhaust stream. However, a wet ESP system could be used for control of particulate emissions. Additionally, the baghouse and dry ESP present an explosion hazard due to the collected combustible dust in a confined space.

ARC performed an economic analysis for a wet ESP, wet scrubber, and cyclone. Based on the costs of installing and operating these systems, the cost effectiveness ($/ton removed) of each system is:

Pollutant	Wet ESP	Wet Scrubber	Cyclone
PM	$10,572,485	$6,696,126	$2,025,399
PM_{10}	$7,048,323	$4,464,084	$3,375,665
$PM_{2.5}$	$9,193,465	$5,822,719	$8,101,595

As seen above, these feasible control systems would not be economically feasible due to the cost effectiveness of particulate control. The Mill has selected the only remaining feasible option as BACT, which is good operating practices, including maintaining the dryer according to the manufacturer's specifications. In addition to good operating practices, the Mill is proposing annual filterable PM, PM_{10}, and $PM_{2.5}$ limits of 0.02 lb/ADTFP and 1.60 lb/hr, 0.03 lb/ADTFP and 2.41 lb/hr, and 0.023 lb/ADTFP and 1.84 lb/hr, respectively. These limits were based on Table F4 of NCASI TB No. 942 – Measurement of PM, PM_{10}, $PM_{2.5}$, and CPM Emissions from Paper Machine Sources (November 2007). Since it is impractical to measure particulate matter from this source, the Mill must conduct maintenance pursuant to the manufacturer's recommendation to ensure good operating practices. The Mill will comply with the particulate BACT limits through emissions and production tracking.

No. 8 Recovery Furnace

The recovery furnace is used in the chemical recovery process to regenerate cooking liquor. The furnace burns concentrated black liquor to produce smelt of sodium carbonate, sodium sulfide, residual organics, and spent chemicals. As a result of the high levels of sodium present for sulfur capture in the recovery furnace, a majority of PM emissions are sodium salts. ARC has determined that an ESP and mechanical cyclone are feasible add-on control technologies. The baghouse was removed as a technically feasible option due to the relatively high moisture content in the exhaust stream. A wet scrubber following the ESP was eliminated due to the inefficiency of collecting fine particulate.

ARC has selected an ESP for control of particulate emissions from the No. 8 Recovery Furnace. Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. In addition to installing an ESP, the Mill is proposing a limit of 0.015 gr/dscf at 8% O_2 and 56.86 lb/hr for filterable PM, 0.030 gr/dscf at 8% O_2 and 113.71 lb/hr for PM_{10}, and 0.027 gr/dscf at 8% O_2 and 102.34 lb/hr for $PM_{2.5}$. The Mill will comply with the PM limit through annual stack testing and parametric monitoring of the black liquor firing rate set during the annual stack test. The Mill will comply with the PM_{10} and $PM_{2.5}$ BACT limits through stack testing every five years and parametric monitoring of the black liquor firing rate as set during the five years testing.

No. 8 Smelt Dissolving Tank

The smelt tank receives the molten smelt from the recovery furnace and mixes in weak wash to form green liquor for further processing. As part of this project, the exhaust stream from the No. 8 Smelt Dissolving Tank will be conditioned to remove moisture in a scrubber and be routed back into the No. 8 Recovery Furnace for use as combustion air. In limited operating scenarios, exhaust emissions may vent through a wet scrubber into the atmosphere.

Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. To comply with BACT, the Mill must limit the duration of the No. 8 Smelt Dissolving Tank to the atmosphere to no more than 24 hours in a semi-annual period. The duration of any venting occurrence must be recorded and documented.

No. 7 Mill Slaker

The lime slaker receives green liquor from the clarifiers and mixes it with water and lime producing calcium hydroxide (slaked lime). ARC has determined that a wet scrubber and mechanical cyclone are feasible add-on control technologies. The baghouse was eliminated as a feasible option due to the moisture levels expected in the exhaust stream of the slaker. For similar reasons, a dry ESP was eliminated as a feasible option. A wet ESP would also not be feasible due to the mineral deposits that would build up inside the unit impacting the operation of the control device.

ARC has selected a water spray/wet scrubber for control of particulate emissions from the No. 7 Mill Slaker. Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. In addition to installing a water spray/wet scrubber, the Mill is proposing a limit of 0.029 lb/ton CaO and

0.56 lb/hr for filterable PM, filterable PM_{10}, and filterable $PM_{2.5}$. The Mill will comply with the particulate limits through stack testing every five years and parametric monitoring of the scrubber parameters set during the test.

No. 7 Lime Kiln

The lime kiln receives lime mud from the lime mud precoat filter and dewaters it to recover lime. The lime recovery is accomplished through using high temperatures to burn the lime mud and convert calcium carbonate into calcium oxide. ARC has determined that an ESP, wet scrubber, and mechanical cyclone are feasible add-on control technologies. The exhaust stream from the lime kiln is expected to have a moisture content of 30% and a temperature of 585°F. For a baghouse to operate properly, condensation would need to be prevented by maintaining the exhaust stream above the dew point temperature. If condensation formed, the fabric filters would plug and cause operational issues. As a result, a baghouse was eliminated as a feasible control technology.

ARC has selected an ESP for control of particulate emissions from the No. 7 Lime Kiln. Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. In addition to installing an ESP, the Mill is proposing a limit of 0.01 gr/dscf at 10% O_2 and 2.96 lb/hr for filterable PM, 0.030 gr/dscf at 10% O_2 and 8.89 lb/hr for PM_{10}, and 0.027 gr/dscf at 10% O_2 and 8.00 lb/hr for $PM_{2.5}$. The Mill will comply with the PM limit through annual stack testing and parametric monitoring of the lime mud feed rate set during the annual stack test. The Mill will comply with the PM_{10} and $PM_{2.5}$ BACT limits through stack testing every five years and parametric monitoring of the lime mud feed rate set during the five year testing.

CO

Table 4.2: *CO Control Technology Feasible?*

Unit	Thermal Oxidation	Catalytic Oxidation	Good Operating Practices / Combustion Controls
No. 7 Bleach Plant	Y	N	Y
No. 8 Recovery Furnace	N	N	Y
No. 8 Smelt Dissolving Tank	Y*	N	Y
No. 7 Lime Kiln	N	N	Y

*Indicates top-ranked feasible control technology was selected as BACT.

No. 7 Mill Bleach Plant

The bleach plant uses chlorine dioxide to whiten pulp. Bleaching is done in stages including the bleaching phase (D phase) followed by an extraction phase (E phase). CO is generated as a byproduct of this process. ARC has determined that thermal oxidation and good operating practices are feasible add-on control technologies. Catalytic oxidation was eliminated due to the high moisture content of the exhaust and the presence of chlorinated compounds, which would cause catalyst poisoning.

ARC performed an economic analysis for thermal oxidation for control of the bleach plant's CO emissions. Based on the costs of installing and operating a standalone thermal oxidizer, the cost effectiveness is estimated to be $29,707 per ton of CO removed. As a result, thermal

oxidation would not be considered economically feasible. The Mill has selected the only remaining feasible option as BACT, which is good operating practices, including routine maintenance and maintaining the bleach plant according to the manufacturer's specifications. In addition to good operating practices, the Mill is proposing a CO emission limit of 1.53 lb/ADTBP and 111.34 lb/hr for the chlorinated stages. These limits were based on emission factors from NCASI TB No. 1020. The Mill will comply with the CO BACT limits through stack testing every five years and production tracking.

No. 8 Recovery Furnace

ARC has determined that good combustion and/or operating practices are the only feasible control technology. Thermal oxidation was eliminated as the recovery furnace itself is considered a thermal oxidizer due to the high operating temperatures and used for the control of pulp mill gases. Catalytic oxidation was eliminated due to the presence of toxic metals in the exhaust stream, which would cause catalyst poisoning.

Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. Additionally, the Mill has proposed a CO limit of 200 ppmvd at 8% O_2 and 385.91 lb/hr. The Mill will comply with the CO limit through stack testing every five years and parametric monitoring of the black liquor firing rate set during testing.

No. 8 Smelt Dissolving Tank

As part of this project, the exhaust stream from the No. 8 Smelt Dissolving Tank will be conditioned to remove moisture in a scrubber and be routed back into the No. 8 Recovery Furnace for use as combustion air. The No. 8 Recovery Furnace is expected to oxidize CO emissions and serve as the top ranked control option. In limited operating scenarios, exhaust emissions may vent through the wet scrubber into the atmosphere.

Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. To comply with BACT, the Mill must limit the duration of venting the No. 8 Smelt Dissolving Tank to the atmosphere to no more than 24 hours in a semi-annual period. The duration of any venting occurrence must be recorded and documented.

No. 7 Lime Kiln

ARC has determined that good combustion and/or operating practices are the only feasible control technology. Thermal oxidation is a potential control technology; however, due to the high moisture content of the exhaust stream, thermal or catalytic oxidation would not be feasible.

Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. Additionally, the Mill has proposed a CO limit of 50 ppmvd at 10% O_2 and 7.55 lb/hr. The Mill will comply with the CO limit through stack testing every five years and parametric monitoring of the lime mud feed rate set during testing.

TRS, H_2S

Table 4.3: *TRS, H_2S Control Technology Feasible?*

Unit	Thermal Oxidation	Wet Scrubber	Good Operating Practices
No. 7 Mill Chip Meter	Y*	Y	Y
No. 7 Mill Continuous Digester	Y*	Y	Y
No. 7 Mill Evaporator	Y*	Y	Y
No. 7 Mill Flash Tank	Y*	Y	Y
No. 7 Mill Blow Tank	Y*	Y	Y
No. 7 Mill Digester Area Foul Condensate Tank	Y*	Y	Y
No. 7 Mill Primary Knotter	Y*	Y	Y
No. 7 Mill Secondary Knotter	Y*	Y	Y
No. 7 Mill Knotter Accepts Tank	Y*	Y	Y
No. 7 Mill Knot Conveyor	Y*	Y	Y
No. 7 Mill Brown Stock Transfer Tank	Y*	Y	Y
No. 7 Bleach Plant	Y	Y	Y
No. 7 Mill Multiple Effect Evaporator System	Y*	Y	Y
No. 8 Mill Multiple Effect Evaporator System	Y*	Y	Y
No. 8 Recovery Furnace	N	Y	Y
No. 8 Smelt Dissolving Tank	Y*	Y	Y
No. 7 Mill Slaker	Y	Y	Y
No. 7 Lime Kiln	N	Y	Y
New/Modified Tall Oil Reactor and Associated Equipment	Y*	Y	Y
No. 7 Mill Turpentine Decanter and Under Flow Tank	Y*	Y	Y

*Indicates top-ranked feasible control technology was selected as BACT.

Sources Vented to LVHC or HVLC Collection Systems

A number of new or modified sources as part of this project would be required to be captured and collected as part of the LVHC or HVLC systems. The LVHC sources include the No. 7 Mill Continuous Digester, No. 7 Mill Digester Evaporator, No. 7 Mill Flash Tank, No. 7 Mill Digester Area Foul Condensate Tank, No. 7 Mill Multiple Effect Evaporator System, No. 8 Mill Multiple Effect Evaporator System, and the No. 7 Mill Turpentine Decanter and Underflow Tank. The HVLC sources include the No. 7 Mill Chip Meter, No. 7 Mill Blow Tank, No. 7 Mill Primary Knotter, No. 7 Mill Secondary Knotter, No. 7 Mill Knotter Accepts Tank, No. 7 Mill Knot Conveyor, No. 7 Mill Brown Stock Transfer Tank, and New/Modified Tall Oil Reactor and associated equipment. Currently, LVHC gases at the Mill are directed to the lime kilns or Backup NCG Incinerator for control. The HVLC gases are sent to the recovery furnaces for control. The Mill is evaluating options to eliminate the Backup NCG Incinerator. If this project were implemented, the LVHC gases would also be routed to the

recovery furnaces for control with the lime kilns serving as a backup option. In either scenario, the gases would be controlled through thermal oxidation. This represents the top-ranked control technology for TRS and H_2S.

Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. There are no proposed numerical limits from these sources as the emissions are to be collected for control. The Mill will be required to collect these gases for control as stated in 40 CFR Part 60 Subpart BBa and 40 CFR Part 63 Subpart S.

No. 7 Mill Bleach Plant

Thermal oxidation is considered a technically feasible control technology for controlling the bleach plant's TRS emissions. A wet scrubber is also considered technically feasible and is currently installed in the present configuration of the bleach plant.

ARC performed an economic analysis for the installation of an add-on thermal oxidation system for the bleach plant. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $1,446,863 per ton of TRS removed. As a result, thermal oxidation would not be considered economically feasible. ARC has selected a wet scrubber as BACT for the No. 7 Mill Bleach Plant. The Mill has also proposed a emission limits of 0.02 lb/ADTBP and 1.48 lb/hr for TRS and 0.01 lb/ADTBP and 0.79 lb/hr for H_2S from the chlorinated stages of the No. 7 Mill Bleach Plant. The Mill will comply with the TRS and H_2S BACT limits through stack testing every five years and parametric monitoring set during testing.

No. 8 Recovery Furnace

ARC has determined that a wet scrubber and good combustion and/or operating practices are the only feasible control technologies. Thermal oxidation was eliminated as the recovery furnace itself is considered a thermal oxidizer due to the high operating temperatures and is used for control of pulp mill gases.

ARC performed an economic analysis for control of TRS emissions from the No. 8 Recovery Furnace with a wet scrubber. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $277,199 per ton of TRS removed. As a result, installation of a wet scrubber would not be considered economically feasible. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. The Mill has also proposed emission limits of 5 ppmvd at 8% O_2 (12-hour block average) and 11.74 lb/hr for TRS and 4 ppmvd at 8% O_2 and 9.39 lb/hr for H_2S from the No. 8 Recovery Furnace. The TRS limit is equivalent to the 40 CFR Part 60 Subpart BBa limit. The Mill would also be required to monitor TRS emissions through a CEMS under Subpart BBa. The H_2S limit is based on NCASI TB 1050.

No. 8 Smelt Dissolving Tank

As mentioned above, the No. 8 Smelt Dissolving Tank's exhaust will be routed back into the No. 8 Recovery Furnace for use as combustion air. The No. 8 Recovery Furnace is

expected to oxidize emissions and serve as the top ranked control option. In limited operating scenarios, exhaust emissions may vent through a wet scrubber into the atmosphere.

Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. To comply with BACT, the Mill must limit the duration of the No. 8 Smelt Dissolving Tank to the atmosphere to no more than 24 hours in a semi-annual period. The duration of any venting occurrence must be recorded and documented.

No. 7 Mill Slaker

All TRS and H_2S control technologies are considered technically feasible options for the No. 7 Mill Slaker.

ARC performed an economic analysis for collecting the slaker's exhaust and treating the emissions through a thermal oxidizer or wet scrubber. Based on the costs of installing and operating these systems, the cost effectiveness ($/ton removed) of each system is:

Thermal Oxidation	Wet Scrubber
$36,368	$18,176

The Mill has selected a wet scrubber as the BACT add-on control technology. The Mill has also proposed an emission limit of 0.105 lb/ton CaO and 2.03 lb/hr for TRS from the No. 7 Mill Slaker. This limit is based on an emission factor from the 2018 NCASI Air Toxics Pulp and Paper Database. The Mill will comply with the TRS BACT limits through stack testing every five years and parametric monitoring set during testing.

No. 7 Lime Kiln

ARC has determined that a wet scrubber and good combustion and/or operating practices are the only feasible control technologies. Thermal oxidation is a potential control technology; however, due to the high moisture content of the exhaust stream, thermal or catalytic oxidation would not be feasible.

ARC performed an economic analysis for control of TRS emissions from the No. 7 Lime Kiln with a wet scrubber following the ESP. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $204,660 per ton of TRS removed. As a result, installation of a wet scrubber would not be considered economically feasible. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. The Mill has also proposed emission limits of 8 ppmvd at 10% O_2 (12-hour block average) and 1.47 lb/hr for TRS and H_2S from the No. 7 Lime Kiln. The TRS limit is equivalent to the 40 CFR Part 60 Subpart BB limit. The Mill would also be required to monitor TRS emissions through a CEMS under Subpart BB. The H_2S limit is set equivalent to the TRS limits and the Mill will demonstrate compliance with both limits through the use of the CEMS.

SAM

Table 4.4: *SAM Control Technology Feasible?*

Unit	Wet ESP	Good Operating Practices / Combustion Controls
No. 8 Recovery Furnace	Y	Y
No. 7 Lime Kiln	Y	Y

No. 8 Recovery Furnace

ARC has determined that both a wet ESP and good combustion and/or operating practices are feasible control technologies for SAM emissions from the No. 8 Recovery Furnace.

ARC performed an economic analysis for control of SAM emissions from the No. 8 Recovery Furnace through a wet ESP. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $150,552 per ton of SAM removed. As a result, installation of a wet ESP for SAM control would not be considered economically feasible. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. The Mill has also proposed a SAM emission limit of 5 ppmvd at 8% O_2 and 33.78 lb/hr. This limit is based on vendor data for the No. 8 Recovery Furnace. The Mill will comply with the SAM BACT limits through stack testing every five years and parametric monitoring set during testing.

No. 7 Lime Kiln

ARC has determined that both a wet ESP and good combustion and/or operating practices are feasible control technologies for SAM emissions from the No. 7 Lime Kiln.

ARC performed an economic analysis for control of SAM emissions from the No. 7 Lime Kiln through a wet ESP. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $391,560 per ton of SAM removed. As a result, installation of a wet ESP for SAM control would not be considered economically feasible. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. The Mill has also proposed a SAM emission limit of 1.2 lb/hr. The Mill will comply with the SAM BACT limits through stack testing every five years and parametric monitoring set during testing.

NOx

Table 4.5: *NOx Control Technology Feasible?*

Unit	Selective Catalytic Reduction	Oxidation and Scrubbing	Selective Non-Catalytic Reduction	Flue Gas Recirculation	Low-Nox and Ultra Low-NOx Burners	Good Operating Practices / Combustion Controls
No. 8 Recovery Furnace	N	N	N	N	N	Y
No. 7 Lime Kiln	N	N	N	N	N	Y

No. 8 Recovery Furnace

ARC has determined that good combustion and/or operating practices is the only feasible control technology. The use of selective catalytic reduction (SCR) was eliminated due to the potential catalyst poisoning and the need to burn additional natural gas to reheat the

exhaust stream if the SCR is placed after the ESP. Oxidation and scrubbing have not been demonstrated on a recovery furnace and was not considered technically feasible. A selective non-catalytic reduction (SNCR) system was eliminated due to the risk of explosion if water condenses from the injection of urea of ammonia and mixes with black liquor solids. Flue gas recirculation (FGR) was eliminated due to the potential to cause incomplete combustion of black liquor solids leading to additional PM loading to the ESP and decreased efficiency of the recovery furnace. Low-NOx burners are used to reduce thermal NOx formation and typically used for natural gas firing. Since the recovery furnace primarily burns black liquor solids and the recovery furnace environment could cause damage to low-NOx burners used for ancillary natural gas combustion, low-NOx and ultra low-NOx burners were eliminated from consideration.

The Mill has selected good combustion and/or operating practices for control of NOx emissions from the No. 8 Recovery Furnace. The Mill intends to optimize the air port location to improve combustion through better mixing. This improved tertiary air system should reduce NOx emissions to be comparable to a quaternary air system. Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. Additionally, the Mill has proposed a NOx limit of 75 ppmvd at 8% O_2 and 237.69 lb/hr. The Mill will comply with the NOx BACT limits through stack testing every five years and parametric monitoring set during testing.

No. 7 Lime Kiln

ARC has determined that good combustion and/or operating practices is the only feasible control technology. The use of SCR was eliminated due to potential catalyst poisoning and the need to burn additional natural gas to reheat the exhaust stream if the SCR is placed after the ESP. Oxidation and scrubbing have not been demonstrated on a lime kiln and was not considered technically feasible. A SNCR system was eliminated due to kiln's temperature range being outside the effective range for SNCR. Additionally, injection of ammonia or urea could affect product quality. FGR was not considered feasible due to possible negative impacts on the kiln's efficiency. Low-NOx and ultra low-NOx burners, including internal FGR, were eliminated due to the specific needs of the lime kiln's temperature profile throughout the kiln. The uniform heating profile is achieved through a direct fired burner inherent to the kiln's design.

The Mill has selected good combustion and/or operating practices for control of NOx emissions from the No. 7 Lime Kiln. The proposed practices include kiln design, low operating temperatures, controlled air-fuel mix, and high efficiency of the kiln. Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. Additionally, the Mill has proposed a NOx limit of 112 ppmvd at 10% O_2 and 27.76 lb/hr. The Mill will comply with the NOx BACT limits through stack testing every five years and parametric monitoring set during testing.

VOC

Table 4.6: *VOC Control Technology Feasible?*

Unit	Thermal Oxidation	Catalytic Oxidation	Packed Bed Scrubber	Condenser Technology	Carbon Adsorption	Biofiltration	Good Operating Practices
No. 7 Mill Chip Meter	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Continuous Digester	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Evaporator	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Flash Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Blow Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Digester Area Foul Condensate Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Primary Knotter	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Secondary Knotter	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Knotter Accepts Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Knot Conveyor	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Brown Stock Transfer Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Bleach Plant	Y	N	Y	N	N	N	Y
No. 7 Mill Pulp Dryer	Y	Y	N	N	N	N	Y
No. 7 Mill Multiple Effect Evaporator System	Y*	N	Y	Y	Y	N	Y
No. 8 Mill Multiple Effect Evaporator System	Y*	N	Y	Y	Y	N	Y
No. 8 Recovery Furnace	N	N	N	N	N	N	Y
No. 7 Lime Kiln	N	N	Y	N	N	N	Y
New/Modified Tall Oil Reactor and Associated Equipment	Y*	N	Y	N	N	N	Y
No. 7 Mill Turpentine Decanter and Under Flow Tank	Y*	N	Y	Y	Y	N	Y
No. 7 Mill Turpentine Storage Tank	Y*	N	Y	Y	Y	N	Y

*Indicates top-ranked feasible control technology was selected as BACT.

Sources Vented to LVHC or HVLC Collection Systems

A number of new or modified sources as part of this project would be required to be captured and collected as part of the LVHC or HVLC systems. The LVHC sources include the No. 7 Mill Continuous Digester, No. 7 Mill Digester Evaporator, No. 7 Mill Flash Tank, No. 7 Mill Digester Area Foul Condensate Tank, No. 7 Mill Multiple Effect Evaporator System,

No. 8 Mill Multiple Effect Evaporator System, No. 7 Mill Turpentine Decanter and Underflow Tank, and No. 7 Mill Turpentine Storage Tank. The HVLC sources include the No. 7 Mill Chip Meter, No. 7 Mill Blow Tank, No. 7 Mill Primary Knotter, No. 7 Mill Secondary Knotter, No. 7 Mill Knotter Accepts Tank, No. 7 Mill Knot Conveyor, No. 7 Mill Brown Stock Transfer Tank, and New/Modified Tall Oil Reactor and associated equipment. Currently, LVHC gases at the Mill are directed to the lime kilns or Backup NCG Incinerator for control. The HVLC gases are sent to the recovery furnaces for control. The Mill is evaluating options to eliminate the Backup NCG Incinerator. If this project were implemented, the LVHC gases would also be routed to the recovery furnaces for control with the lime kilns serving as a backup option. In either scenario, the gases would be controlled through thermal oxidation. This represents the top-ranked control technology for VOC.

Since ARC has selected the highest ranked feasible control technology, an economic, environmental, and energy impact analysis was not completed. There are no proposed numerical limits from these sources as the emissions are to be collected for control. The Mill will be required to collect these gases for control as stated in 40 CFR Part 60 Subpart BBa and 40 CFR Part 63 Subpart S.

No. 7 Bleach Plant

Thermal oxidation is considered a technically feasible control technology for control of the bleach plant's VOC emissions. A wet scrubber is also considered technically feasible and is currently installed in the present configuration of the bleach plant. However, control of organics has been shown to be insignificant and emissions from the washers and seal chests associated with the extraction stages are not routed to the scrubber. Catalytic oxidation was eliminated due to the presence of sulfur and chlorine in the exhaust of the bleach plant, which would deactivate the catalyst. A condenser system would need a relatively pure VOC stream for treatment to be effective. As a result, a condenser was eliminated from consideration. Carbon adsorption would face a similar issue as the condenser and the high moisture content of the exhaust would reduce the number of adsorption sites. The low VOC emissions and presence of chlorine dioxide would inhibit bacterial growth in a biofiltration system.

ARC performed an economic analysis for collecting the No. 7 Bleach Plant's emissions and transporting them to a standalone incineration device for control. Based on the costs of installing and operating these systems, the cost effectiveness is estimated to be $131,954 per ton of VOC removed. As a result, thermal oxidation was removed as it is not economically feasible. The Mill currently has a wet scrubber installed, as mentioned above. Due to the low VOC control provided, the Mill has selected the good operating practices as BACT. Additionally, the Mill has proposed VOC emission limits of 0.2 lb/ADTBP and 14.73 lb/hr for the chlorinated stages. These limits are based on emission factors from NCASI TB No. 1020. The Mill will comply with the VOC BACT limits through stack testing every five years and parametric monitoring set during testing for the chlorinated stages.

No. 7 Pulp Mill Dryer

Thermal oxidation, catalytic oxidation, and good operating practices are considered technically feasible control technologies for controlling the pulp dryer's VOC emissions.

There is not one exhaust stream from the pulp dryer as emissions from the multiple processes of the dryer travel upwards to the roof of the building and exit through numerous vents. The multiple exhaust vents and relatively low VOC emissions make adsorption, scrubbing, and condensing technically infeasible. The exhaust would also create an inhospitable environment for a biofiltration unit.

ARC performed an economic analysis for collecting the pulp dryer's emissions and transporting to a regenerative thermal oxidizer or regenerative catalytic oxidizer. Based on the costs of installing and operating these systems, the cost effectiveness ($/ton removed) of each system is:

Thermal Oxidation	Catalytic Oxidation
$873,578	$1,206,434

As seen above, these feasible control systems would not be economically feasible due to the cost effectiveness of emissions control. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. Additionally, the Mill has proposed a VOC emission limit of 0.149 lb/ADTFP and 11.99 lb/hr. This limit is based on emission factors from site-specific data from a similar GP operation. The Mill will comply with the VOC BACT limits through emissions and production tracking.

No. 8 Recovery Furnace

ARC has determined that good combustion and/or operating practices is the only feasible control technology for VOC emissions. Thermal oxidation was eliminated as the recovery furnace itself is considered a thermal oxidizer due to the high operating temperatures and use for control of pulp mill gases. A catalytic oxidizer would need to be installed after the ESP due to potential catalyst poisoning and the exhaust would need to be reheated. A wet scrubber would have problems with the high-flow and low VOC exhaust of the recovery furnace. Additionally, the wet scrubber would potentially need absorbent separation and scrubbing liquid regeneration for liquids other than water. A condenser would not be considered technically feasible due to the high temperature and flow rate of the recovery furnace's exhaust in addition to the need for a pure VOC stream for effective control. The high exhaust temperature and need for a pure VOC stream would also pose problems for carbon adsorption. Similarly, the high temperature and low VOC concentration would not create a hospital environment for biofiltration microbes.

The Mill has selected good combustion and/or operating practices for control of VOC emissions from the No. 8 Recovery Furnace. Additionally, the Mill has proposed a VOC limit of 20 ppmvd at 8% O_2 and 16.55 lb/hr. This limit is based on vendor provided data. The Mill will comply with the VOC BACT limits through stack testing every five years and parametric monitoring set during testing.

No. 7 Lime Kiln

ARC has determined that a packed bed scrubber and good combustion and/or operating practices are the only feasible control technologies for VOC emissions. Thermal oxidation is a potential control technology; however, due to the high moisture content of the exhaust

stream, thermal or catalytic oxidation would not be feasible. A condenser was eliminated as technically feasible due to the emissions being below the normal operating ranges of condensers (>5,000 ppm). Biofiltration was eliminated due to the high exhaust temperature leaving the kiln.

ARC performed an economic analysis for installing a wet scrubber for VOC control from the kiln. Based on the costs of installing and operating this system, the cost effectiveness is estimated to be $183,961 per ton of VOC removed. As a result, a wet scrubber would not be economically feasible due to the cost effectiveness of emissions control. The Mill has selected the only remaining feasible option as BACT, which is good operating practices. Additionally, the Mill has proposed a VOC limit of 25 ppmvd at 10% O_2 and 1.62 lb/hr. This limit is based on vendor provided data. The Mill will comply with the VOC BACT limits through stack testing every five years and parametric monitoring set during testing for the chlorinated stages.

GHGs

Table 4.7: *GHG Control Technology Feasible?*

Unit	Carbon Capture and Sequestration	Carbon Capture and Utilization	Efficient Operating Practices
No. 8 Recovery Furnace	N	N	Y
No. 7 Lime Kiln	N	N	Y

No. 8 Recovery Furnace

Carbon capture and sequestration would be difficult to achieve on the recovery furnace due to the need to isolate CO_2 from an exhaust stream diluted with many different impurities from combustion. These impurities include nitrogen, H_2S methane, SO_2, and mercaptans. These impurities would also pose problems for potential storage sites by altering the ability of the porous rock to "seal-in" CO_2. Additionally, the CO_2 stream would need to be further polished to remove excess moisture prior to storage. Lastly, there is not a nearby storage site available for CO_2 sequestration. Carbon capture and utilization would face similar obstacles as outlined above. However, instead of sequestration the captured CO_2 would be injected into a pipeline for industrial uses such as enhanced oil recovery, beverage production, and chemical yield boosting feedstock. This method is heavily dependent on market conditions, which have not proved to be reliable particularly when considering BACT is applicable over the life of the emissions unit. Efficient operating practices represent the only technically feasible control technology.

Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. The Mill will limit fossil fuel firing to less than a 10 percent annual capacity factor, pursuant to 40 CFR Part 60 Subpart Db, improve the as fired solids of the recovery furnace, and improve the air system to improve efficiency. Additionally, the Mill has proposed a GHG limit of 1,830,307 tpy for emissions associated with black liquor solids and fuel combustion and a GHG limit of 4,965 tpy from incineration of NCGs. The Mill will comply with the GHG BACT limits through emissions tracking.

No. 7 Lime Kiln

As discussed above, carbon capture and sequestration/utilization would not be technically feasible for GHG emissions from the lime kiln. Efficient operating practices represent the only technically feasible control technology.

Since ARC selected the only feasible control technology, an economic, environmental, and energy impact analysis was not completed. The Mill will retrofit the kiln with a lime mud flash dryer that uses flue gas to help dry lime mud and improve the fuel economy of the unit. Additionally, the Mill has proposed a GHG limit of 65,073 tpy for emissions associated fuel combustion and a GHG limit of 4,965 tpy from incineration of NCGs. The Mill will comply with the GHG BACT limits through emissions tracking.

BACT Summary

Table 5 below summarizes all of the Mill's proposed BACT limitations and control technologies.

Table 5: *BACT Summary*

Source	Pollutant	Proposed BACT		
		Control Technology	Rate Based Limit	Mass Based Limit
No. 7 Mill Chip Meter	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Continuous Digester	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 7 Mill Digester Evaporator	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 7 Mill Flash Tank	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 7 Mill Blow Tank	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
	H_2S	Thermal Oxidation (HVLC)	-	-

No. 7 Mill Digester Area Foul Condensate Tank	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 7 Mill Primary Knotter	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Secondary Knotter	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Knotter Accepts Tank	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Knot Conveyor	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Brown Stock Transfer Tank	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
	H_2S	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Bleach Plant – Chlorinated Stages	CO	Good Operating Practices	1.53 lb/ADTBP	111.34 lb/hr

	VOC	Wet Scrubber	0.2 lb/ADTBP	14.73 lb/hr
	TRS	Wet Scrubber	0.02 lb/ADTBP	1.48 lb/hr
	H_2S	Wet Scrubber	0.01 lb/ADTBP	0.79 lb/hr
No. 7 Mill Pulp Dryer	PM	Good Operating Practices	0.02 lb/ADTFP	1.60 lb/hr
	PM_{10}	Good Operating Practices	0.03 lb/ADTFP	2.41 lb/hr
	$PM_{2.5}$	Good Operating Practices	0.023 lb/ADTFP	1.84 lb/hr
	VOC	Good Operating Practices	0.149 lb/ADTFP	11.99 lb/hr
No. 7 Mill Multiple Effect Evaporator System	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 8 Multiple Effect Evaporator System	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 8 Recovery Furnace	PM	ESP	0.015 gr/dscf at 8% O_2	56.86 lb/hr
	PM_{10}	ESP	0.030 gr/dscf at 8% O_2	113.71 lb/hr

	$PM_{2.5}$	ESP	0.027 gr/dscf at 8% O_2	102.34 lb/hr
	CO	Good Operating Practices	200 ppmvd at 8% O_2	385.91 lb/hr
	NOx	Good Operating Practices	75 ppmvd at 8% O_2	237.69 lb/hr
	VOC	Good Operating Practices	20 ppmvd at 8% O_2	16.55 lb/hr
	TRS	Good Operating Practices	5 ppmvd at 8% O_2	11.74 lb/hr
	H_2S	Good Operating Practices	4 ppmvd at 8% O_2	9.39 lb/hr
	SAM	Good Operating Practices	5 ppmvd at 8% O_2	33.78 lb/hr
	GHGs	Efficient Operating Practices / Maximize Use of Biogenic Fuel	-	1,830,307 tpy (Fuel Combustion)
			-	4,965 tpy (NCG Firing)
No. 8 Smelt Dissolving Tank	PM	Vent to No. 8 Recovery Furnace	-	-
	PM_{10}	Vent to No. 8 Recovery Furnace	-	-
	$PM_{2.5}$	Vent to No. 8 Recovery Furnace	-	-
	CO	Vent to No. 8 Recovery Furnace	-	-
	TRS	Vent to No. 8 Recovery Furnace	-	-
	H_2S	Vent to No. 8 Recovery Furnace	-	-

No. 7 Mill Slaker	PM	Water Spray / Wet Scrubber	0.029 lb/ton CaO	0.56 lb/hr
	Filterable PM_{10}	Water Spray / Wet Scrubber	0.029 lb/ton CaO	0.56 lb/hr
	Filterable $PM_{2.5}$	Water Spray / Wet Scrubber	0.029 lb/ton CaO	0.56 lb/hr
	TRS	Wet Scrubber	0.105 lb/ton CaO	2.03 lb/hr
No. 7 Lime Kiln	PM	ESP	0.01 gr/dscf at 10% O_2	2.96 lb/hr
	PM_{10}	ESP	0.030 gr/dscf at 10% O_2	8.89 lb/hr
	$PM_{2.5}$	ESP	0.027 gr/dscf at 10% O_2	8.00 lb/hr
	CO	Good Operating Practices	50 ppmvd at 10% O_2	7.55 lb/hr
	NOx	Good Operating Practices	112 ppmvd at 10% O_2	27.76 lb/hr
	VOC	Good Operating Practices	25 ppmvd at 10% O_2	1.62 lb/hr
	TRS	Good Operating Practices	8 ppmvd at 10% O_2	1.47 lb/hr
	H_2S	Good Operating Practices	8 ppmvd at 10% O_2	1.47 lb/hr
	SAM	Good Operating Practices	-	1.2 lb/hr
	GHGs	Good Operating Practices	-	65,073 tpy (Fuel Combustion)
			-	4,965 tpy (NCG Firing)

New/Modified Tall Oil Reactor and Associated Equipment	VOC	Thermal Oxidation (HVLC)	-	-
	TRS	Thermal Oxidation (HVLC)	-	-
	H_2S	Thermal Oxidation (HVLC)	-	-
No. 7 Mill Turpentine Decanter and Under Flow Tank	VOC	Thermal Oxidation (LVHC)	-	-
	TRS	Thermal Oxidation (LVHC)	-	-
	H_2S	Thermal Oxidation (LVHC)	-	-
No. 7 Mill Turpentine Storage Tank	VOC	Thermal Oxidation (LVHC)	-	-

Ambient Air Impact Analysis (Modeling)

The memorandum found in Appendix A from the Air Division's Planning Branch addresses all dispersion modeling issues from the proposed project. As can be seen in this modeling report, ARC would not exceed any PSD increment or National Ambient Air Quality Standard (NAAQS).

Class I

This project would be located greater than 100 km from the nearest Class I Areas (Sipsey and Breton Wilderness Areas). The Department did not require a Class I analysis, and the applicable Federal Land Managers did not require a Class I AQRV analysis either based on information that was provided to them.

Class II

A Class II increment analysis was performed for $PM_{2.5}$ and PM_{10}. The results show there are no predicted violations of the Class II increments.

Additional Impact Analysis

Since the project would not exceed any PSD increment or primary NAAQS, adverse effects on soils and vegetation are not expected from this project. Visible emissions are regulated by permits and GP ARC's implementation of a fugitive dust plan. Impacts on growth in the area are expected to be minimal with no adverse effects.

Coastal Consistency

The proposed facility is not located in Mobile or Baldwin County. Therefore, the ADEM - Coastal Section was not contacted concerning the proposed modifications.

Recommendation

The analysis indicates that the proposed project would meet all requirements of the ADEM - Administrative Code R. 335-3. Therefore, I recommend that air permits 106-0010-X003, X006, X012, X014, X016, X020, X030, X108, X321, Z004, Z007, and Z008 be issued incorporating the provisos found in Appendix B, pending the results of a 30-day public comment period.

Steven Bissey
Industrial Chemicals Section
Chemical Branch
Air Division

July 31, 2025

Date

Appendix A

Air Dispersion Modeling

JEFFERY W. KITCHENS
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July 30, 2025

MEMORANDUM

TO: Steven Bissey SB
Industrial Chemicals Section
Chemical Branch
Air Division

FROM: Michael Leach/Geoffrey Healan ML GH
Meteorological Section
Planning Branch
Air Division

SUBJECT: Air Dispersion Modeling for Georgia-Pacific Alabama River Cellulose, LLC Prevention of Significant Deterioration (PSD) Permit Application

ADEM has completed its review of an air quality modeling analysis performed by Georgia-Pacific on behalf of Georgia-Pacific Alabama River Cellulose, LLC (GP-ARC.) The purpose of this analysis was to assess the impacts on air quality from emissions of nitrogen dioxide (NO_2), particulate matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$), particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}), and Carbon Monoxide (CO) from a proposed modification/modernization of the facility's No. 7 Mill in Perdue Hill (Monroe County), AL. An air quality analysis was performed for NO_2, $PM_{2.5}$, PM_{10}, and CO to demonstrate that emissions from the proposed modification will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD Increment.

AIR QUALITY MODELS:

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), version 24142, was used in default mode for modeling all pollutants. The NO_2 modeling was performed using the regulatory default Tier 2 Ambient Ratio Method 2 (ARM2) in AERMOD.

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(251) 479-2593 (FAX)

METEOROLOGICAL DATA:

Surface and upper air meteorological data for the years 2019-2023 were used in all modeling. The surface data was from the Evergreen, AL National Weather Service (NWS) site and the upper air data was from the Birmingham, AL NWS site.

GOOD ENGINEERING PRACTICE ANALYSIS:

A Good Engineering Practice (GEP) Analysis was performed to assess possible building downwash effects. It was determined that all the stacks that were modeled are within the influence area (5L) of one or more of the controlling buildings and have heights less than the GEP stack height. Therefore, building downwash was considered for those sources in the modeling.

SCREENING MODELING & PRECONSTRUCTION MONITORING:

Screening modeling was performed for NO_2, $PM_{2.5}$, PM_{10}, and CO proposed emissions at GP-ARC. The application lists the stack parameters and emission rates for the proposed new and modified sources at GP-ARC that were used in the modeling.

A Cartesian receptor grid extending out to 50 kilometers (km) was used in the modeling analysis. The receptor grid was generated using the following:

(1.) 25 meter (m) spacing along the fence line.
(2.) 100 m spacing from fence line out to 5 km.
(3.) 250 m spacing from 5 km to 10 km.
(4.) 500 m spacing from 10 km to 20 km.
(5.) 1000 m spacing from 20 km to 50 km.

All maximum predicted concentrations for all pollutants for all averaging periods were resolved to within 100-meter receptor spacing. Receptor terrain elevations were generated using the EPA AERMAP program.

Table 1 lists the results of screening modeling performed for $PM_{2.5}$, PM_{10}, NO_2, and CO.

TABLE 1
Screening Modeling Results

Pollutant	Averaging Period	Max Conc. ($\mu g/m^3$)	Signif. Level ($\mu g/m^3$)	SIA (km)
NO_2	1 hour	25.75	7.5	5.7
NO_2	Annual	0.67	1	-
$PM_{2.5}$	24 hour	6.82*	1.2	50
$PM_{2.5}$	Annual	0.97*	0.13	50
PM_{10}	24 hour	6.78	5	1.7
PM_{10}	Annual	1.17	1	1.2
CO	1 hour	264.23	2,000	-
CO	8 hour	142.02	500	-

*Includes MERPs values of 1.841 ug/m3 for 24 hour and 0.103 ug/m3 for Annual.

Results of the modeling indicated that the maximum predicted concentration for annual NO_2 and for 1 hour and 8 hour CO were below the significance levels. Therefore, further modeling of annual NO_2 and 1 hour and 8 hour CO was not required. However, the 1 hour NO_2, 24 hour and annual $PM_{2.5}$, and 24 hour and annual PM_{10} averaging periods were predicted to have concentrations greater than their significance levels. Therefore, further modeling of 1 hour NO_2, $PM_{2.5}$, and PM_{10} was required.

Also, during this initial screening modeling analysis, preconstruction monitoring requirements were addressed, and it was determined that preconstruction monitoring for all pollutants was not required.

MERPs ANALYSIS:

Precursor emission impacts to Ozone and $PM_{2.5}$ (secondary $PM_{2.5}$) were considered and a Modeled Emission Rates for Precursors (MERPs) analysis was performed. The Ozone precursors are the pollutants VOC and NO_x, and the precursor emissions of interest for secondary $PM_{2.5}$ are NO_x and SO_2. For secondary $PM_{2.5}$, the following total emissions were considered: for NO_x, 1,058 TPY; and for SO_2, 2,772 TPY. For Ozone, the following total emissions were considered: for VOC, 2,490 TPY; and for NO_x, 1,284 TPY. The results for the MERPs analyses are presented in Table 2.

TABLE 2
MERPs Analysis Results

Pollutant	**Results**
Secondary $PM_{2.5}$ (24 hour)	1.841 $\mu g/m^3$
Secondary $PM_{2.5}$ (Annual)	0.103 $\mu g/m^3$
Ozone (8 hour)	5.93 ppb

The secondary concentrations from the MERPs analysis were added to the screening modeling, NAAQS, and Class II Increment modeling results for $PM_{2.5}$. Also, the nearest ozone monitor to the proposed project is the Sumter County monitor. Based on that monitor, the addition of 5.93 ppb of ozone from the MERPs analysis added to the Sumter

County monitor's 8 hour design value of 55.00 ppb gives a total of 60.93 ppb. This is less than the standard of 70 ppb and thus demonstrates passing the Tier 1 assessment for ozone.

REFINED MODELING:

NAAQS ANALYSIS:

When modeling for the NAAQS, all emission sources at GP-ARC and other nearby facilities were included. An inventory of sources was required for $PM_{2.5}$ and NO_2. Based on the SIA for PM_{10}, an inventory of sources was not required for that pollutant. Results of the $PM_{2.5}$ NAAQS modeling are found in Table 3. Results of NO_2 NAAQS modeling are found in Table 4. Results of the PM_{10} NAAQS modeling are found in Table 5.

TABLE 3
$PM_{2.5}$ NAAQS Modeling Results

Averaging Period	Predicted Conc. ($\mu g/m^3$)	Secondary $PM_{2.5}$ ($\mu g/m^3$)	Back-ground ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	% of NAAQS
24 hour	9.26	2.14[(a)]	15.2	26.61	35	76
Annual	2.28	0.12[(b)]	6.2	8.6	9.0	96

(a) Includes MERPs values of 1.841 µg/m3 for project secondary PM2.5 and 0.296 µg/m3 for offsite secondary PM2.5.

(b) Includes MERPs values of 0.103 µg/m3 for project secondary PM2.5 and 0.012 µg/m3 for offsite secondary PM2.5.

TABLE 4
NO_2 NAAQS Modeling Results

Pollutant	Averaging Period	Predicted Conc. ($\mu g/m^3$)	Back-ground ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	% of NAAQS
NO_2	1 hour	33.04	31	64.04	188	34

TABLE 5
PM_{10} NAAQS Modeling Results

Averaging Period	Predicted Conc. ($\mu g/m^3$)	Back-ground ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	% of NAAQS
24 hour	15.77	24	40.17	150	27

As shown in Tables 3 through 5, there are no predicted violations of any NAAQS standard.

CLASS II INCREMENT ANALYSIS:

When modeling for the Class II Increment, all sources at GP-ARC and other nearby facilities were included for $PM_{2.5}$. An inventory was not required for PM_{10}. Results of the $PM_{2.5}$ Class II Increment modeling are found in Table 6. Results of the PM_{10} Class II Increment modeling are found in Table 7.

TABLE 6
$PM_{2.5}$ Class II Increment Analysis

Averaging Period	Predicted Conc. ($\mu g/m^3$)	Secondary $PM_{2.5}$ ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	Increment ($\mu g/m^3$)	% of Increment
24 hour	5.39	0.62[(a)]	6.0	9	67
Annual	0.55	0.028[(a)]	0.58	4	15

(a) MERPs value for project secondary PM2.5.

TABLE 7
PM_{10} Class II Increment Analyses

Pollutant	Averaging Period	Predicted Conc. ($\mu g/m^3$)	Increment ($\mu g/m^3$)	% of Increment
PM_{10}	24-hour	12.66	30	42
PM_{10}	Annual	2.87	17	17

As shown in Table 6 and Table 7, there are no predicted violations of the $PM_{2.5}$ and PM_{10} Class II Increments for any averaging period.

CLASS I AREA MODELING:

The nearest Class I areas to GP-ARC are the Breton National Wildlife Refuge (located 215 km southwest of GP-ARC) and the Sipsey Wilderness Area (located 300 km north of GP-ARC.) ADEM did not require a Class I analysis and the applicable Federal Land Managers did not require a Class I AQRV analysis either based on information that was provided to them.

CONCLUSION:

In conclusion, emissions of NO_2, $PM_{2.5}$, PM_{10}, and CO from the proposed modifications at the GP-ARC facility in Perdue Hill (Monroe County), Alabama are not expected to cause or significantly contribute to a violation of a NAAQS or Class II Increment.

Appendix B

Proposed Permits

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X003	No. 7 Lime Kiln (19.3 Tons CaO/hr w/ ESP)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 30 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	(X)
Sulfur Dioxide	(X)	Nitrogen Oxides	(X)
Volatile Organic Compounds	(X)	Sulfuric Acid Mist	(X)
Total Reduced Sulfur	(X)	Hydrogen Sulfide	(X)

15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter

media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

16. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

18. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

19. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Lime Kiln
Informational Summary

Description: No. 7 Lime Kiln

Emission Unit No: X003

Installation Date: 1978 **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 19.3 Tons CaO/hr (127 MMBtu/hr)

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BB
40 CFR Part 63 Subpart MM

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X003	No. 7 Lime Kiln	PM	≤ 1.0 lb/ADTUBP	Rule 335-3-4-.07 (2)(c)
X003	No. 7 Lime Kiln	PM	≤ 0.066 gr/dscf at 10 % O_2 when firing natural gas	Rule 335-3-10-.02 (28)
X003	No. 7 Lime Kiln	PM	≤ 0.01 gr/dscf at 10% O_2 (3-run average) and/or ≤ 2.96 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	PM_{10}	≤ 0.030 gr/dscf at 10% O_2 (3-run average) and/or ≤ 8.89 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	$PM_{2.5}$	≤ 0.027 gr/dscf at 10% O_2 (3-run average) and/or ≤ 8.00 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	Opacity	≤ 20% (6-minute Average) < 3% of the operating time within a semi-annual period while lime mud is fed	Rule 335-3-11-.06 (38)
X003	No. 7 Lime Kiln	TRS	≤ 8 ppmvd at 10% O_2 (as H_2S, 12-hour block average) and/or ≤ 1.47 lb/hr (as H_2S, 12-hour block average)	Rule 335-3-10-.02 (28) and Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	H_2S	≤ 8 ppmvd at 10% O_2 (12-hour block average) and/or ≤ 1.47 lb/hr (12-hour block average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	SO_2	≤ 50.0 ppmvd at 10% O_2 (3-hour block average) and/or ≤ 23.3 lb/hr	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	NOx	≤ 112 ppmvd at 10% O_2 (3-run average) and/or ≤ 27.76 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	CO	≤ 50 ppmvd at 10% O_2 (3-run average) and/or ≤ 7.55 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	VOC	≤ 25 ppmvd at 10% O_2 (as carbon, 3-run average) and/or ≤ 1.62 lbs/hr (as carbon, 3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	SAM	≤ 1.2 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	GHGs	≤ 65,073 tpy (Fuel Combustion) and ≤ 4,965 tpy (NCG Firing)	Rule 335-3-14-.04 (9)
X003	No. 7 Lime Kiln	HAPs	≤ 0.064 gr/dscf at 10% O_2 (PM as a surrogate)	Rule 335-3-11-.06 (38)

Permitted Fuels

Fuel	Max % Sulfur	Max % Ash
Natural Gas	N/A	N/A

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the requirements of ADEM Admin. Code 335-3-4-.07 (2)(c) for filterable particulate matter.	Rule 335-3-4-.07 (2)(c)
3. This source is subject to federal New Source Performance Standards Subpart BB and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)
4. This source is subject to 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.	Rule 335-3-11-.06 (1) and (38)
5. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter, total particulate matter with a diameter of 10 micrometers or less, total particulate matter with a diameter of 2.5 micrometers or less, total reduced sulfur, hydrogen sulfide, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfuric acid mist, and greenhouse gases.	Rule 335-3-14-.04 (9)
Emission Standards	
1. Filterable PM emissions shall not exceed 1.0 pounds per air-dried ton of pulp.	Rule 335-3-4-.07 (2)(c)
2. Filterable PM emissions shall not exceed 0.066 gr/sdcf at 10 percent oxygen when gaseous fossil fuel is fired.	Rule 335-3-10-.02 (28)
3. Pursuant to 40 CFR Part 63 Subpart MM, particulate matter emissions, as a surrogate for HAPs, shall not exceed 0.064 gr/DSCF at 10 percent oxygen.	Rule 335-3-11-.06 (38)
4. Pursuant to 40 CFR Part 63, Subpart MM, this unit's opacity shall not exceed 20% for 3% or more of the operating time within any semiannual period while lime mud is fed.	Rule 335-3-11-.06 (38)
5. TRS emissions shall not exceed 8 parts per million at 10 percent oxygen averaged over discrete 12-hour periods.	Rule 335-3-10-.02 (28)

Federally Enforceable Provisos	Regulations

6. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply: — Rule 335-3-14-.04 (9)

Pollutant	Rate Based Limit	Mass Based Limit
Filterable PM	≤ 0.01 gr/dscf at 10% O_2 (3-run average)	≤ 2.96 lb/hr (3-run average)
PM_{10}	≤ 0.030 gr/dscf at 10% O_2 (3-run average)	≤ 8.89 lb/hr (3-run average)
$PM_{2.5}$	≤ 0.027 gr/dscf at 10% O_2 (3-run average)	≤ 8.00 lb/hr (3-run average)
CO	≤ 50 ppmvd at 10% O_2 (3-run average)	≤ 7.55 lb/hr (3-run average)
NO_x	≤ 112 ppmvd at 10% O_2 (3-run average)	≤ 27.76 lb/hr (3-run average)
VOC	≤ 25 ppmvd at 10% O_2 (as carbon, 3-run average)	≤ 1.62 lb/hr (as carbon, 3-run average)
TRS	≤ 8 ppmvd at 10% O_2 (as H_2S, 12-hour block average)	≤ 1.47 lb/hr (as H_2S, 12-hour block average)
H_2S	≤ 8 ppmvd at 10% O_2 (12-hour block average)	≤ 1.47 lb/hr (12-hour block average)
SAM	-	≤ 1.2 lb/hr (3-run average)
SO_2	≤ 50.0 ppmvd at 10% O_2 (3-hour block average)	≤ 23.3 lb/hr
GHGs		≤ 65,073 tpy (Fuel Combustion) and ≤ 4,965 tpy (NCG Firing)

Compliance and Performance Test Methods and Procedures

1. Compliance with the filterable PM emissions limits shall be determined in accordance with 40 CFR Part 60 Method 5 or 17. — Rule 335-3-10-.02 (28) Rule 335-3-11-.06 (38)
2. Compliance with the $PM_{2.5}$ and PM_{10} emission limits shall be determined in accordance with 40 CFR Part 60 Method 201A and/or Method 202. — Rule 335-3-1-.05
3. Compliance with the opacity limit shall be determined in accordance with the 40 CFR 60 Method 9 or the continuous opacity monitoring system (COMS). — Rule 335-3-11-.06 (38)
4. Compliance with the TRS emission limit shall be determined in accordance with the continuous emission monitoring system or 40 CFR Part 60 Method 16, 16A, 16B, or 16C. — Rule 335-3-10-.02 (28)
5. Compliance with the H_2S emission limit shall be determined in accordance with the continuous emission monitoring system or 40 CFR Part 60 Method 15, 16, 16A, 16B or 16C. — Rule 335-3-1-.05
6. Compliance with the SO_2 emission limit shall be determined in accordance with 40 CFR Part 60 Method 6. — Rule 335-3-1-.05
7. Compliance with the NOx emissions limits shall be determined in accordance with 40 CFR Part 60 Method 7E. — Rule 335-3-1-.05

Federally Enforceable Provisos	Regulations
8. Compliance with the CO emissions limits shall be determined in accordance with 40 CFR Part 60 Method 10.	Rule 335-3-1-.05
9. Compliance with the VOC emission limit shall be determined in accordance with the 40 CFR Part 60 Method 18, 25, 25A, or 25B.	Rule 335-3-1-.05
10. Compliance with the SAM emission limit shall be determined in accordance with the 40 CFR Part 60 Method 8.	Rule 335-3-1-.05
11. Compliance with the GHG emission limits shall be determined through emissions tracking.	Rule 335-3-14-.04 (9)
Emission Monitoring	
1. A filterable PM emission test shall be performed at least once per year. The tests shall be conducted at intervals no less than 6 months from the previous test and no greater than 18 months from the previous test.	Rule 335-3-14-.04 (9)
2. A PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, VOC, and SAM emission test shall be performed at least once every 5 years.	Rule 335-3-14-.04 (9)
3. A COMS which meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 shall be installed, operated, calibrated, and maintained to record the opacity discharged from the unit.	Rule 335-3-11-.06 (38)
4. Six-minute average opacities will be continuously recorded while the unit is in operation.	Rule 335-3-11-.06 (38)
5. For opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 20 percent when lime mud is fed, the cause is to be investigated and appropriate corrective action is to be taken.	Rule 335-3-11-.06 (38)
6. The facility must maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC) system.	Rule 335-3-11-.06 (38)
7. For PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, VOC, and SAM periodic monitoring, if any three-hour block average $CaCO_3$ feed rate is greater than 110 percent of its average value set by the respective required periodic test that showed compliance or a test approved by the Department that showed compliance, the feed rate is to be lowered until compliance is successfully demonstrated at the higher rate.	Rule 335-3-14-.04 (9)
8. A continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent oxygen by volume on a dry basis shall be installed, calibrated, maintained and operated in accordance with 40 CFR §60.284(a)(2). The system shall be located downstream of the control device and the spans of these continuous monitoring systems shall be set: (i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system. (ii) At 25 percent oxygen for the continuous oxygen monitoring system.	Rule 335-3-10-.02 (28)
9. For compliance with 40 CFR Part 63, Subpart MM, a particulate matter performance test shall be performed, pursuant to §63.865, every 5 years. Performance test data must be submitted through CEDRI within 60 days after the date of completing each performance test.	Rule 335-3-11-.06 (38)
Recordkeeping and Reporting Requirements	
1. A filterable PM emission test report shall be submitted to the Department at least once per year.	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
2. A PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, VOC, and SAM emission test report shall be submitted to the Department at least every five years.	Rule 335-3-14-.04 (9)
3. Records of all calculated monthly GHG emissions shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
4. Records of all six-minute average opacities shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-11-.06 (38)
5. In accordance with §63.866 (b) and §63.864 (k)(1), the facility must maintain records of any occurrence when corrective action is required when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when lime mud is fed, and when a violation, per §63.864 (k)(2), is noted (when opacity is greater than 20 percent for 3 percent or more of the operating time when lime mud is fed within any semiannual period).	Rule 335-3-11-.06 (38)
6. Pursuant to 40 CFR Part 63, Subpart MM the facility must maintain records of the CaO production rates in units of Mg/d or ton/d.	Rule 335-3-11-.06 (38)
7. The facility must maintain records demonstrating compliance with the requirement in §63.864 (e)(1) to maintain proper operation of an ESP's AVC.	Rule 335-3-11-.06 (38)
8. In accordance with §63.866 (d), in the event this unit fails to meet and emission limit in §63.862 or any opacity operating limit in §63.864, record the number of failures. For each failure record the date, start time, duration of each failure, and: (i) For any failure to meet an emission limit in §63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions. (ii) For each failure to meet an operating limit in §63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted of the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator. Record actions taken to minimize emissions in accordance with §63.860 (d) and any corrective actions taken to return the unit to its normal or usual manner of operation.	Rule 335-3-11-.06 (38)
9. Records of all three-hour block average $CaCO_3$ feed rates shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
10. Records of all 12-hour average TRS emissions shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-10-.02 (28)
11. The facility shall submit a report containing all of the required information found in 40 CFR 60.7(c) and 40 CFR 60.284(d)(2) by the 30th day following the end of each semiannual reporting period.	Rule 335-3-10-.02 (28)

Federally Enforceable Provisos	Regulations
12. In accordance with 40 CFR Part 63, Subpart MM, the facility must submit a semiannual Excess Emissions Report and/or Summary Report containing the information required in §63.867 (c), including the number and duration of occurrences when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when lime mud is fed, and when the opacity is greater than 20 percent for 3 percent or more of the operating time within any semiannual period. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the Summary Report is required to be submitted. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is 1 percent or greater of the total reporting period operating time, or the total CMS downtime for the reporting period is 5 percent or greater of the total reporting period operating time, or any violations according to §63.864 (k)(2) occurred, information from both the Summary Report and the Excess Emissions Report must be submitted. Excess Emissions and Summary Reports must be reported electronically via CEDRI per §63.867 (d)(2) once the reporting form specific to 40 CFR Part 63, Subpart MM has been available in CEDRI for one year. Reports shall be submitted within 30 days following the end of the semiannual periods ending on June 30 and December 31.	Rule 335-3-10-.02 (28)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X003
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Lime Kiln

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X006	No. 7 Multiple Effect Evaporator System (114.6 TBLS/hr)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Multiple Effect Evaporator System
Informational Summary

Description: No. 7 Multiple Effect Evaporator System

Emission Unit No: X006

Installation Date: 1978 **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 114.6 TBLS/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BB
40 CFR Part 63 Subpart S

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X006	No. 7 Multiple Effect Evaporator System	VOC	Incineration	Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	TRS	Incineration	Rule 335-3-10-.02 (28) Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	H_2S	Incineration	Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	HAPs	Incineration	Rule 335-3-11-.06 (18)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to federal New Source Performance Standards Subpart BB and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)
3. This source is subject to federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S (See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" of MSOP 106-0010 for additional requirements).	Rule 335-3-11-.06 (1) and (18)
4. This source is subject to the requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. All gases discharged that contain total reduced sulfur in excess of 5 parts per million on a dry basis, corrected to 10 percent oxygen, shall be combusted in a lime kiln, recovery furnace, or incinerator or other device subjecting the gases to a minimum temperature of 1200 degrees Fahrenheit for at least 0.5 seconds.	Rule 335-3-10-.02 (28)
2. Such that the standards for Best available Control Technology (BACT) shall be met for VOC, TRS, and H_2S emissions, gases discharged from the No. 7 Multiple Effect Evaporator shall be collected in an LVHC closed vent system meeting the requirements of §63.450 and combusted in a control device as described in §63.443(d). Periods of excess emissions (venting) that are reported under §63.455 shall not be considered a violation provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed one percent for control devices used to reduce the total HAP emissions from the LVHC system.	Rule 335-3-14-.04 (9)
3. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Compliance and Performance Test Methods and Procedures	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Emission Monitoring	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Recordkeeping and Reporting Requirements	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X006
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Multiple Effect Evaporator System

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [ ] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X012	No. 8 Recovery Furnace and Smelt Dissolving Tank (156.3 Tons BLS/hr **w**/ ESP)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 30 working days of completion of testing.

Particulates	(X)	Carbon Monoxide	(X)
Sulfur Dioxide	(X)	Nitrogen Oxides	(X)
Volatile Organic Compounds	(X)	Sulfuric Acid Mist	(X)
Total Reduced Sulfur	(X)	Hydrogen Sulfide	(X)

15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter

media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

16. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

18. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

19. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 8 Recovery Furnace and Smelt Dissolving Tank
Informational Summary

Description: No. 8 Recovery Furnace and Smelt Dissolving Tank

Emission Unit No: X012

Installation Date: 1991 (No. 8 Recovery Furnace) **Reconstruction / Modification date**: 2025 (TBD)
TBD (No. 8 Smelt Dissolving Tank)

Operating Capacity: 156.3 Tons BLS/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart Db (when firing fossil fuels)
40 CFR Part 60 Subpart BBa (when firing black liquor solids)
40 CFR Part 63 Subpart MM

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X012	No. 8 Recovery Furnace	PM	$\leq$ 4.0 lb/ADTUBP	Rule 335-3-4-.07 (2)(a)
X012	No. 8 Recovery Furnace	PM	$\leq$ 0.044 gr/dscf at 8% O_2	Rule 335-3-10-.02 (28)(a)
X012	No. 8 Recovery Furnace	PM	$\leq$ 0.015 gr/dscf at 8% O_2 (3-run average) and/or $\leq$ 56.86 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	PM_{10}	$\leq$ 0.030 gr/dscf at 8% O_2 (3-run average) and/or $\leq$ 113.71 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	$PM_{2.5}$	$\leq$ 0.027 gr/dscf at 8% O_2 (3-run average) and/or $\leq$ 102.34 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	Opacity	$\leq$ 20% (6-min average) < 2% of the operating time within any semiannual period when BLS is fired.	Rule 335-3-10-.02 (28)(a)
X012	No. 8 Recovery Furnace	Opacity	$\leq$ 35% (6-min average) < 2% of the operating time within any semiannual period when spent pulping liquor is fed.	Rule 335-3-11-.06 (38)
X012	No. 8 Recovery Furnace	TRS	$\leq$ 5 ppmvd at 8% O_2 (as H_2S, 12-hour block average) and/or $\leq$ 11.74 lb/hr (as H_2S, 12-hour block average)	Rule 335-3-10-.02 (28)(a) and Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	H_2S	$\leq$ 4 ppmvd at 8% O_2 (3-run average) and/or $\leq$ 9.39 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	SO_2 (BLS fired)	$\leq$ 100 ppmvd at 8% O_2 (3-hour block average) and $\leq$ 357.3 lbs/hr	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	SO_2 (fuel oil fired)	$\leq$ 0.3 lb/MMBtu fuel oil heat and $\leq$ 357.3 lbs/hr	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	NO_x	$\leq$ 75 ppmvd at 8% O_2 (3-run average) and/or $\leq$ 237.69 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	NO_x	Pursuant to Section 60.44b(c), Code of Federal Regulations, the fossil fuel annual capacity factor shall be 10% or less where the annual capacity factor is defined as the ratio between the actual heat input to the boiler from fossil fuel during a calendar year and the potential heat input to the boiler had it been operated 8,760 hours at the maximum designed heat input.	Rule 335-3-10-.02 (2) (b)
X012	No. 8 Recovery Furnace	CO	$\leq$ 200 ppmvd at 8% O_2 (3-run average) and/or $\leq$ 385.91 lb/hr (3-run average)	Rule 335-3-14-.04 (9)

X012	No. 8 Recovery Furnace	VOC	≤ 20 ppmvd at 8% O_2 (as carbon, 3-run average) and/or ≤ 16.55 lb/hr (as carbon, 3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	SAM	≤ 5 ppmvd at 8% O_2 (3-run average) and ≤ 33.78 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	GHGs	≤ 1,830,307 tpy (Fuel Combustion) and/or ≤ 4,965 tpy (NCG Firing)	Rule 335-3-14-.04 (9)
X012	No. 8 Recovery Furnace	HAPs	≤ 0.044 gr/dscf at 8% O_2 (PM as a surrogate)	Rule 335-3-11-.06 (38)

Permitted Fuels

Fuel	Max % Sulfur	Max % Ash
No. 2-5 Fuel Oil	0.25	
Tall Oil		
Glycerin		
Biodiesel		
Black Liquor Solids		
Natural Gas		

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the requirements of ADEM Admin. Code 335-3-4-.07 (2)(a) for filterable particulate matter.	Rule 335-3-4-.07 (2)(a)
3. This source is subject to federal New Source Performance Standards Subpart Db for nitrogen oxide emissions and 40 CFR 60 Subpart A, General Provisions when fuel oil or natural gas are fired.	Rule 335-3-10-.02 (1) and (2)(b)
4. This source is subject to federal New Source Performance Standards Subpart BBa and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)(a)
5. This source is subject to 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.	Rule 335-3-11-.06 (1) and (38)
6. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter, total particulate matter with a diameter of 10 micrometers or less, total particulate matter with a diameter of 2.5 micrometers or less, total reduced sulfur, hydrogen sulfide, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfuric acid mist, and greenhouse gases.	Rule 335-3-14-.04 (9)
Emission Standards	
1. The No. 8 Smelt Dissolving Tank shall be vented with the combustion air system of the No. 8 Recovery Furnace. The No. 8 Smelt Dissolving Tank scrubber is permitted to vent to the atmosphere no more than 24 hours over a semiannual period while the smelt dissolving tank is receiving smelt. There is no requirement to vent the No. 8 Smelt Dissolving Tank to the No. 8 Recovery Furnace when the smelt dissolving tank is not receiving smelt.	Rule 335-3-14-.04 (9)
2. Filterable PM emissions shall not exceed 4.0 pounds per air-dried ton of pulp.	Rule 335-3-4-.07 (2)(a)
3. Filterable PM emissions shall not exceed 0.044 grains per DSCF at 8 percent oxygen.	Rule 335-3-10-.02 (28)(a)
4. Pursuant to 40 CFR Part 63, Subpart MM, as a surrogate for HAPs, the particulate matter emissions from this unit shall not exceed 0.044 grains per DSCF at 8 percent oxygen.	Rule 335-3-11-.06 (38)
5. Pursuant to 40 CFR Part 60, Subpart BBa, this unit's opacity shall not exceed 20% for 2% or more of the operating time within any semiannual period when BLS is fired.	Rule 335-3-10-.02 (28)(a)
6. Pursuant to 40 CFR Part 63, Subpart MM, this unit's opacity shall not exceed 35% for 2% or more of the operating time within any semiannual period when spent pulping liquor is fed.	Rule 335-3-11-.06 (38)
7. TRS emissions shall not exceed 5 parts per million at 8 percent oxygen averaged over discrete 12-hour periods.	Rule 335-3-10-.02 (28)(a)
8. Pursuant to Section 60.44b(c), Code of Federal Regulations, the fossil fuel annual capacity factor shall be ten (10) percent or less, where the annual capacity factor is defined as the ratio between the actual heat input to the boiler from fossil fuel during a calendar year and the potential heat input to the boiler had it been operated 8,760 hours at the maximum designed heat input.	Rule 335-3-10-.02 (2)(b)

Federally Enforceable Provisos	Regulations

9. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply: — Rule 335-3-14-.04 (9)

Pollutant	Rate Based Limit	Mass Based Limit
Filterable PM	≤ 0.015 gr/dscf at 8% O_2 (3-run average)	≤ 56.86 lb/hr (3-run average)
PM_{10}	≤ 0.030 gr/dscf at 8% O_2 (3-run average)	≤ 113.71 lb/hr (3-run average)
$PM_{2.5}$	≤ 0.027 gr/dscf at 8% O_2 (3-run average)	≤ 102.34 lb/hr (3-run average)
CO	≤ 200 ppmvd at 8% O_2 (3-run average)	≤ 385.91 lb/hr (3-run average)
NOx	≤ 75 ppmvd at 8% O_2 (3-run average)	≤ 237.69 lb/hr (3-run average)
VOC	≤ 20 ppmvd at 8% O_2 (as carbon, 3-run average)	≤ 16.55 lb/hr (as carbon, 3-run average)
TRS	≤ 5 ppmvd at 8% O_2 (as H_2S, 12-hour block average)	≤ 11.74 lb/hr (as H_2S, 12-hour block average)
H_2S	≤ 4 ppmvd at 8% O_2 (3-run average)	≤ 9.39 lb/hr (3-run average)
SO_2 (BLS fired)	≤ 100 ppmvd at 8% O_2 (3-hour block average)	≤ 357.3 lbs/hr
SO_2 (fuel oil fired)	≤ 0.3 lb/MMBtu fuel oil heat	≤ 357.3 lbs/hr
SAM	≤ 5 ppmvd at 8% O_2 (3-run average)	≤ 33.78 lb/hr (3-run average)
CO_2e	-	≤ 1,830,307 tpy (Fuel Combustion) and/or ≤ 4,965 tpy (NCG Firing)

10. Since the exhaust gases from the No. 8 Smelt Dissolving Tank are being conditioned by a scrubber and then vented to the No. 8 Recovery Furnace as combustion air, the No. 8 Recovery Furnace and Smelt Dissolving Tank are considered as one unit. Therefore, no initial performance testing or continuous monitoring is required for the No. 8 Smelt Dissolving Tank, other than the requirement to track venting from the No. 8 Smelt Dissolving Tank scrubber as described in Proviso 1 above. — Rule 335-3-14-.04 (9)

Compliance and Performance Test Methods and Procedures

1. Compliance with the filterable PM emissions limits shall be determined in accordance with 40 CFR Part 60 Method 5 or 17. — Rule 335-3-10-.02 (28)(a) Rule 335-3-11-.06 (38)
2. Compliance with the $PM_{2.5}$ and PM_{10} emission limits shall be determined in accordance with 40 CFR Part 60 Method 201A and/or Method 202. — Rule 335-3-1-.05 Rule 335-3-10-.02 (28)(a)
3. Compliance with the opacity limit shall be determined in accordance with the 40 CFR 60 Method 9 or the continuous opacity monitoring system (COMS). — Rule 335-3-10-.02 (28)(a) Rule 335-3-11-.06 (38)

Federally Enforceable Provisos	Regulations
4. Compliance with the TRS emission limit shall be determined in accordance with the continuous emission monitoring system or 40 CFR Part 60 Method 16, 16A, 16B, 16C.	Rule 335-3-10-.02 (28)(a)
5. Compliance with the H_2S emission limit shall be determined in accordance with 40 CFR Part 60 Method 15, 16, 16A, 16B or 16C.	Rule 335-3-1-.05
6. Compliance with the SO_2 emission limit shall be determined in accordance with 40 CFR Part 60 Method 6.	Rule 335-3-1-.05
7. Compliance with the NOx emissions limits shall be determined in accordance with 40 CFR Part 60 Method 7E.	Rule 335-3-1-.05
8. Compliance with the CO emissions limits shall be determined in accordance with 40 CFR Part 60 Method 10.	Rule 335-3-1-.05
9. Compliance with the VOC emission limit shall be determined in accordance with the 40 CFR Part 60 Method 18, 25, 25A, or 25B.	Rule 335-3-1-.05
10. Compliance with the SAM emission limit shall be determined in accordance with the 40 CFR Part 60 Method 8.	Rule 335-3-1-.05
11. Compliance with the GHG emission limits shall be determined through emissions tracking.	Rule 335-3-14-.04 (9)
Emission Monitoring	
1. A filterable PM emission test shall be performed at least once per year. The tests shall be conducted at intervals no less than 6 months from the previous test and no greater than 18 months from the previous test.	Rule 335-3-14-.04 (9)
2. A PM_{10}, $PM_{2.5}$, H_2S, SO_2, NOx, CO, VOC, and SAM emission test shall be performed at least once every 5 years.	Rule 335-3-14-.04 (9)
3. The date, time, and duration the No. 8 Smelt Dissolving Tank scrubber vents to the atmosphere while the smelt dissolving tank is receiving smelt shall be monitored and recorded.	Rule 335-3-14-.04 (9)
4. A COMS which meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 shall be installed, operated, calibrated, and maintained to record the opacity discharged from the unit.	Rule 335-3-10-.02 (28)(a) Rule 335-3-11-.06 (38)
5. Six-minute average opacities will be continuously recorded while the unit is in operation.	Rule 335-3-10-.02 (28)(a) Rule 335-3-11-.06 (38)
6. For opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 20 percent when spent pulping liquor is fed, the cause is to be investigated and appropriate corrective action is to be taken.	Rule 335-3-11-.06 (38)
7. Pursuant to 40 CFR Part 60, Subpart BBa the facility shall monitor and record the secondary voltage of each ESP field and secondary current of each ESP field. As an alternative, the facility may monitor and record the total secondary power for each ESP field. Total secondary power may be calculated as the product of the secondary voltage and secondary current measurements for each ESP collection field. Per 40 CFR 60.284a(c)(4), site-specific operating limits are to be established as part of the initial performance test. Replacement operating limits may be established as part of subsequent compliance tests upon proper notification to the Department that these limits are being reestablished.	Rule 335-3-10-.02 (28)(a)
8. In accordance with §63.864(e)(1), the facility must maintain proper operation of the ESP's automatic voltage control (AVC).	Rule 335-3-11-.06 (38)

Federally Enforceable Provisos	Regulations
9. For PM_{10}, $PM_{2.5}$, H_2S, SO_2, NOx, CO, VOC, and SAM 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 liquor firing rate is to be lowered until compliance is successfully demonstrated at the higher rate.	Rule 335-3-14-.04 (9)
10. The facility must install, certify, and operate a continuous TRS monitoring system in accordance with Performance Specification (PS) 5 in appendix B to 40 CFR part 60. You must install, certify, and operate the continuous oxygen monitoring system in accordance with Performance Specification (PS) 3 in appendix B to 40 CFR part 60. These systems must be located downstream of the control device(s). The range of the continuous monitoring system must encompass all expected concentration values, including the zero and span values used for calibration. The spans of these continuous monitoring system(s) must be set: (i) A TRS concentration of 30 ppm for the TRS continuous monitoring system. (ii) At 21-percent oxygen for the continuous oxygen monitoring system.	Rule 335-3-10-.02 (28)(a)
11. The Administrator will not consider periods of excess emissions reported under §60.288a(a) to be indicative of a violation of the standards provided the criteria in paragraphs (1) and (2) of this section are met. (1) The percent of the total number of possible contiguous periods of excess emissions in the semiannual reporting period does not exceed: (i) One percent for TRS emissions from straight recovery furnaces, provided that the 12-hour average TRS concentration does not exceed 30 ppm corrected to 8-percent oxygen. (ii) Two percent for average opacities from recovery furnaces, provided that the ESP secondary voltage and secondary current (or total secondary power) averaged over the semiannual period remained above the minimum operating limits established during the performance test. (2) The Administrator determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.	Rule 335-3-10-.02 (28)(a)
12. Pursuant to §60.285a (b), an initial filterable particulate matter performance test must be conducted in accordance with §60.8 (a) and repeat filterable particulate matter performance testing must be completed at intervals no longer than 5 years following the previous performance test. Also, testing for condensable particulate matter is required at the time of initial and repeat performance testing for filterable particulate matter. Performance test data must be submitted through CEDRI within 60 days after the date of completing each performance test.	Rule 335-3-10-.02 (28)(a)
13. Pursuant to §60.285a (d), an initial total reduced sulfur performance test must be conducted in accordance with §60.8 (a) and repeat total reduced sulfur performance testing must be completed at intervals no longer than 5 years following the previous performance test. Performance test data must be submitted through CEDRI within 60 days after the date of completing each performance test.	Rule 335-3-10-.02 (28)(a)

Federally Enforceable Provisos	Regulations
14. For compliance with 40 CFR Part 63, Subpart MM, a particulate matter performance test shall be performed, pursuant to §63.865, every 5 years. Performance test data must be submitted through CEDRI within 60 days after the date of completing each performance test.	Rule 335-3-11-.06 (38)
Recordkeeping and Reporting Requirements	
1. A filterable PM emission test report shall be submitted to the Department at least once per year.	Rule 335-3-14-.04 (9)
2. A PM_{10}, $PM_{2.5}$, H_2S, SO_2, NOx, CO, VOC, and SAM emission test report shall be submitted to the Department at least every five years.	Rule 335-3-14-.04 (9)
3. Records of the date, time, and duration that the No. 8 Smelt Dissolving Tank scrubber vents to the atmosphere while the smelt dissolving tank is receiving smelt shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-14-.04 (9)
4. Records of all calculated monthly GHG emissions shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
5. Records of all six-minute average opacities shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-10-.02 (28)(a) Rule 335-3-11-.06 (38)
6. In accordance with §63.866(b) and §63.864(k)(1), the facility must maintain records of any occurrence when corrective action is required when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when spent pulping liquor is fed, and when a violation, per §63.864(k)(2), is noted (when opacity is greater than 35 percent for 2 percent or more of the operating time when spent pulping liquor is fed within any semiannual period).	Rule 335-3-11-.06 (38)
7. Pursuant to 40 CFR Part 63, Subpart MM the facility must maintain records of the black liquor firing rates in terms of tons/day or Mg/day.	Rule 335-3-11-.06 (38)
8. The facility must maintain records demonstrating compliance with the requirement in §63.864(e)(1) to maintain proper operation of an ESP's AVC.	Rule 335-3-11-.06 (38)
9. In accordance with §63.866(d), in the event this unit fails to meet an emission limit in §63.862 or any opacity operating limit in §63.864, record the number of failures. For each failure record the date, start time, duration of each failure, and: (i) For any failure to meet an emission limit in §63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions. (ii) For each failure to meet an operating limit in §63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted of the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator. Record actions taken to minimize emissions in accordance with §63.860(d) and any corrective actions taken to return the unit to its normal or usual manner of operation.	Rule 335-3-11-.06 (38)
10. Records of all three-hour block average black liquor firing rates shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
11. Records of all 12-hour average TRS emissions shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-10-.02 (28)(a)
12. Records of the amount of fuel oil and natural gas fired shall be made and the annual capacity factor calculated for each calendar year and maintained on file available for review for at least five years.	Rule 335-3-10-.02 (2)(b)

Federally Enforceable Provisos	Regulations
13. In accordance with §60.7 (c) and §60.7 (d), the facility must report semiannually periods of excess emissions as defined in §60.284a (d). Reports shall be submitted within 30 days following the end of the semiannual periods ending June 30 and December 31.	Rule 335-3-10-.02 (28)(a)
14. In accordance with 40 CFR Part 63, Subpart MM, the facility must submit a semiannual Excess Emissions Report and/or Summary Report containing the information required in §63.867 (c), including the number and duration of occurrences when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when spent pulping liquor is fed, and when the opacity is greater than 35 percent for 2 percent or more of the operating time within any semiannual period. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the Summary Report is required to be submitted. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is 1 percent or greater of the total reporting period operating time, or the total CMS downtime for the reporting period is 5 percent or greater of the total reporting period operating time, or any violations according to §63.864(k)(2) occurred, information from both the Summary Report and the Excess Emissions Report must be submitted. Excess Emissions and Summary Reports must be reported electronically via CEDRI per §63.867(d)(2) once the reporting form specific to 40 CFR Part 63, Subpart MM has been available in CEDRI for one year. Reports shall be submitted within 30 days following the end of the semiannual periods ending on June 30 and December 31.	Rule 335-3-11-.06 (38)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X012
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 8 Recovery Furnace and Smelt Tank

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X014	No. 8 Lime Kiln (22.5 Tons CaO/hr w/ ESP)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

9. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

10. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

11. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

12. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

13. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

14. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

15. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

16. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

17. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

18. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

19. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 8 Lime Kiln
Informational Summary

Description: No. 8 Lime Kiln

Emission Unit No: X014

Installation Date: 1991 **Reconstruction / Modification date**: 2005

Operating Capacity: 22.5 Tons CaO/hr (145 MMBtu/hr for natural gas firing)

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BB
40 CFR Part 63 Subpart MM

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X014	No. 8 Lime Kiln	PM (oil)	$\leq$ 0.07 gr/dscf at 10% O_2 and $\leq$ 29.2 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	PM (gas)	$\leq$ 0.035 gr/dscf at 10% O_2 and $\leq$ 14.6 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	PM (oil)	$\leq$ 0.13 gr/dscf at 10% O_2 when firing oil	Rule 335-3-10-.02 (28)
X014	No. 8 Lime Kiln	PM (gas)	$\leq$ 0.066 gr/dscf at 10% O_2 when firing natural gas	Rule 335-3-10-.02 (28)
X014	No. 8 Lime Kiln	TRS	$\leq$ 8 ppmdv at 10% O_2 and $\leq$ 2.2 lbs/hr	Rule 335-3-10-.02 (28) and Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	SO_2	$\leq$ 50 ppmdv at 10% O_2 (3 hour block average) and $\leq$ 25.3 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	Opacity	$\leq$ 20% with one 6-minute period up to 40% in any hour	Rule 335-3-4-.01 (1)
X014	No. 8 Lime Kiln	NO_x	$\leq$ 100 ppmdv at 10% O_2 and $\leq$ 36.3 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	CO	$\leq$ 52 ppmdv at 10% O_2 and $\leq$ 11.5 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	VOC	$\leq$ 78 ppmdv at 10% O_2 and $\leq$ 16.3 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	SAM	$\leq$ 1.3 lbs/hr	Rule 335-3-14-.04 (9)
X014	No. 8 Lime Kiln	HAPs	$\leq$ 0.064 gr/dscf at 10 % O_2 (PM as a surrogate)	Rule 335-3-11-.06 (38)

Permitted Fuels

Fuel	Max % Sulfur	Max % Ash
No. 2 -5 Fuel Oil	0.25	
Glycerin		
Biodiesel		
Natural Gas		
Hydrogen		
Tall Oil		

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the requirements of ADEM Admin. Code 335-3-4-.07 (2)(c) for filterable particulate matter.	Rule 335-3-4-.07 (2)(c)
3. This source is subject to federal New Source Performance Standards Subpart BB and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)
4. This source is subject to 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.	Rule 335-3-11-.06 (1) and (38)
5. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter, volatile organic compound, total reduced sulfur, carbon monoxide, sulfur dioxide, sulfuric acid mist, and nitrogen oxides.	Rule 335-3-14-.04 (9)
Emission Standards	
1. Filterable PM emissions shall not exceed 1.0 pounds per air-dried ton of pulp.	Rule 335-3-4-.07 (2)(c)
2. Filterable PM emissions shall not exceed 0.13 grain per DSCF at 10 percent oxygen when firing fuel oil and shall not exceed 0.066 grain per DSCF at 10 percent oxygen when firing natural gas.	Rule 335-3-10-.02 (28)
3. Pursuant to 40 CFR Part 63 Subpart MM, particulate matter emissions, as a surrogate for HAPs, shall not exceed 0.064 gr/DSCF at 10 percent oxygen.	Rule 335-3-11-.06 (38)
4. Pursuant to 40 CFR Part 63, Subpart MM, this unit's opacity shall not exceed 20% for 3% or more of the operating time within any semiannual period.	Rule 335-3-11-.06 (38)
5. TRS emissions shall not exceed 8 parts per million at 10 percent oxygen averaged over discrete 12-hour periods.	Rule 335-3-10-.02 (28)
6. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply:	Rule 335-3-14-.04 (9)

Pollutant	Rate Based Limit	Mass Based Limit
Filterable PM (Natural Gas)	$\leq$ 0.035 gr/dscf at 10% O_2	$\leq$ 14.6 lb/hr
Filterable PM (Fuel Oil)	$\leq$ 0.07 gr/dscf at 10% O_2	$\leq$ 29.2 lb/hr
CO	$\leq$ 52 ppmvd at 10% O_2	$\leq$ 11.5 lb/hr
NO_x	$\leq$ 100 ppmvd at 10% O_2	$\leq$ 36.3 lb/hr
VOC	$\leq$ 78 ppmvd at 10% O_2	$\leq$ 16.3 lb/hr
TRS	$\leq$ 8 ppmvd at 10% O_2	$\leq$ 2.2 lb/hr
SAM	-	$\leq$ 1.3 lb/hr
SO_2	$\leq$ 50.0 ppmvd at 10% O_2 (3-hour block average)	$\leq$ 25.3 lb/hr

Federally Enforceable Provisos	Regulations
Compliance and Performance Test Methods and Procedures	
1. Compliance with the filterable PM emissions limits shall be determined in accordance with 40 CFR Part 60 Method 5 or 17.	Rule 335-3-10-.02 (28) Rule 335-3-11-.06 (38)
2. Compliance with the opacity limit shall be determined in accordance with the 40 CFR 60 Method 9 or the continuous opacity monitoring system (COMS).	Rule 335-3-11-.06 (38)
3. Compliance with the TRS emission limit shall be determined in accordance with the continuous emission monitoring system or 40 CFR Part 60 Method 16, 16A, or 16B.	Rule 335-3-10-.02 (28)
4. Compliance with the SO_2 emission limit shall be determined in accordance with 40 CFR Part 60 Method 6.	Rule 335-3-1-.05
5. Compliance with the NOx emissions limits shall be determined in accordance with 40 CFR Part 60 Method 7 or 7E.	Rule 335-3-1-.05
6. Compliance with the CO emissions limits shall be determined in accordance with 40 CFR Part 60 Method 10.	Rule 335-3-1-.05
7. Compliance with the VOC emission limit shall be determined in accordance with the 40 CFR Part 60 Method 18, 25, 25A, or 25B.	Rule 335-3-1-.05
8. Compliance with the SAM emission limit shall be determined in accordance with the 40 CFR Part 60 Method 8.	Rule 335-3-1-.05
Emission Monitoring	
1. A filterable PM emission test shall be performed at least once per year. The tests shall be conducted at intervals no less than 6 months from the previous test and no greater than 18 months from the previous test. If fuel oil firing is re-commenced in the No. 8 Lime Kiln, non-predominant fuel testing will be due within 90 days of commencing fuel firing and continue on a 5-year schedule.	Rule 335-3-16-.05
2. A SO_2, NOx, CO, VOC, and SAM emission test report shall be submitted to the Department at least every five years.	Rule 335-3-16-.05
3. A COMS which meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 shall be installed, operated, calibrated, and maintained to record the opacity discharged from the unit.	Rule 335-3-11-.06 (38)
4. Six-minute average opacities will be continuously recorded while the unit is in operation.	Rule 335-3-11-.06 (38)
5. For opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 20 percent while lime mud is fed, the cause is to be investigated and appropriate corrective action is to be taken.	Rule 335-3-11-.06 (38)
6. The facility must maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC) system.	Rule 335-3-11-.06 (38)
7. For particulate matter, sulfur dioxide, sulfuric acid mists, nitrogen oxides, carbon monoxide and volatile organic compound periodic monitoring, if any 3-hour block average $CaCO_3$ 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.	Rule 335-3-16-.05

Federally Enforceable Provisos	Regulations
8. A continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent oxygen by volume on a dry basis shall be installed, calibrated, maintained and operated in accordance with 40 CFR §60.284(a)(2). The system shall be located downstream of the control device and the spans of these continuous monitoring systems shall be set: (i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system. (ii) At 25 percent oxygen for the continuous oxygen monitoring system.	Rule 335-3-10-.02 (28)
9. For compliance with 40 CFR Part 63, Subpart MM, a particulate matter performance test shall be performed, pursuant to §63.865, every 5 years. Performance test data must be submitted through CEDRI within 60 days after the date of completing each performance test.	Rule 335-3-11-.06 (38)
Recordkeeping and Reporting Requirements	
1. A filterable PM emission test report shall be submitted to the Department at least once per year.	Rule 335-3-16-.05
2. A SO_2, NOx, CO, VOC, and SAM emission test report shall be submitted to the Department at least every five years.	Rule 335-3-16-.05
3. Records of all six-minute average opacities shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-11-.06 (38)
4. In accordance with §63.866 (b) and §63.864 (k)(1), the facility must maintain records of any occurrence when corrective action is required when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when lime mud is fed, and when a violation, per §63.864 (k)(2), is noted (when opacity is greater than 20 percent for 3 percent or more of the operating time when lime mud is fed within any semiannual period).	Rule 335-3-11-.06 (38)
5. Pursuant to 40 CFR Part 63, Subpart MM the facility must maintain records of the CaO production rates in units of Mg/d or ton/d.	Rule 335-3-11-.06 (38)
6. The facility must maintain records demonstrating compliance with the requirement in §63.864 (e)(1) to maintain proper operation of an ESP's AVC.	Rule 335-3-11-.06 (38)
7. In accordance with §63.866 (d), in the event this unit fails to meet and emission limit in §63.862 or any opacity operating limit in §63.864, record the number of failures. For each failure record the date, start time, duration of each failure, and: (i) For any failure to meet an emission limit in §63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions. (ii) For each failure to meet an operating limit in §63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted of the emission limit. This information must be sufficient to provide a reliable emissions estimate if requested by the Administrator. Record actions taken to minimize emissions in accordance with §63.860 (d) and any corrective actions taken to return the unit to its normal or usual manner of operation.	Rule 335-3-11-.06 (38)
8. Records of all three-hour block average $CaCO_3$ feed rates shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-16-.05
9. Records of all 12-hour average TRS emissions shall be made and maintained on file available for inspection for a period of five years.	Rule 335-3-10-.02 (28)

Federally Enforceable Provisos	Regulations
10. The facility shall submit a report containing all of the required information found in 40 CFR 60.7(c) and 40 CFR 60.284(d)(2) by the 30th day following the end of each semiannual reporting period.	Rule 335-3-10-.02 (28)
11. In accordance with 40 CFR Part 63, Subpart MM, the facility must submit a semiannual Excess Emissions Report and/or Summary Report containing the information required in §63.867 (c), including the number and duration of occurrences when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity when lime mud is fed, and when the opacity is greater than 20 percent for 3 percent or more of the operating time within any semiannual period. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the Summary Report is required to be submitted. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is 1 percent or greater of the total reporting period operating time, or the total CMS downtime for the reporting period is 5 percent or greater of the total reporting period operating time, or any violations according to §63.864 (k)(2) occurred, information from both the Summary Report and the Excess Emissions Report must be submitted. Excess Emissions and Summary Reports must be reported electronically via CEDRI per §63.867 (d)(2) once the reporting form specific to 40 CFR Part 63, Subpart MM has been available in CEDRI for one year. Reports shall be submitted within 30 days following the end of the semiannual periods ending on June 30 and December 31.	Rule 335-3-10-.02 (28)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X014
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 8 Lime Kiln

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [ ] SMS [ ] NAME [ ] MOD [X] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X016	No. 8 Multiple Effect Evaporator System (160.1 TBLS/hr)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 8 Multiple Effect Evaporator System
Informational Summary

Description: No. 7 Multiple Effect Evaporator System

Emission Unit No: X006

Installation Date: 1991 **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 160.1 TBLS/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BBa
40 CFR Part 63 Subpart S

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X006	No. 7 Multiple Effect Evaporator System	VOC	Incineration	Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	TRS	Incineration	Rule 335-3-10-.02 (28)(a) Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	H_2S	Incineration	Rule 335-3-14-.04 (9)
X006	No. 7 Multiple Effect Evaporator System	HAPs	Incineration	Rule 335-3-11-.06 (18)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to federal New Source Performance Standards Subpart BBa and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)(a)
3. This source is subject to federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S (See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" of MSOP 106-0010 for additional requirements).	Rule 335-3-11-.06 (1) and (18)
4. This source is subject to the requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. All gases discharged that contain total reduced sulfur in excess of 5 parts per million corrected to 10 percent oxygen shall be collected in an LVHC or HVLC closed vent system meeting the requirements of §63.450 and combusted in a lime kiln, recovery furnace, or incinerator or other device subjecting the gases to a minimum temperature of 1200 degrees Fahrenheit for at least 0.5 seconds.	Rule 335-3-10-.02 (28)(a)
2. Such that the standards for Best available Control Technology (BACT) shall be met for VOC, TRS, and H_2S emissions, gases discharged from the No. 8 Multiple Effect Evaporator shall be collected in an LVHC closed vent system meeting the requirements of §63.450 and combusted in a control device as described in §63.443(d). Periods of excess emissions (venting) that are reported under §63.455 shall not be considered a violation provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed one percent for control devices used to reduce the total HAP emissions from the LVHC system.	Rule 335-3-14-.04 (9)
3. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Compliance and Performance Test Methods and Procedures	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Emission Monitoring	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Recordkeeping and Reporting Requirements	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X016
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 8 Multiple Effect Evaporator System

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [ ] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X020	No. 7 Bleaching System (72.8 ADTBP/hr w/ Wet Scrubber)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 30 working days of completion of testing.

Particulates	( )	Carbon Monoxide	(X)
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	(X)	Sulfuric Acid Mist	( )
Total Reduced Sulfur	(X)	Hydrogen Sulfide	(X)
Chlorine	(X)	Chlorine Dioxide	(X)

15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter

media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

16. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

18. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

19. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Bleaching System
Informational Summary

Description: No. 7 Bleaching System

Emission Unit No: X020

Installation Date: 1978 **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 72.8 ADTBP/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:
40 CFR Part 63 Subpart S

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X020	No. 7 Bleaching System (**State Only**)	ClO_2	$\leq$ 2.87 lbs/hr	Rule 335-3-16-.05
X020	No. 7 Bleaching System: All process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.	Total chlorinated HAP or as chlorine	The equipment at each bleaching stage, of the bleaching systems, where chlorinated compounds are introduced, shall be enclosed and vented into a closed-vent system and routed to a control device.	Rule 335-3-11-.06 (18)
X020	No. 7 Bleaching System: All process equipment after high-density pulp storage prior to the first application of oxidizing chemicals or reducing chemicals following the pulping system, up to and including the final bleaching stage.	Total chlorinated HAP or as chlorine	Chlorinated HAPs shall be reduced pursuant to 40 CFR 63.445 (c).	Rule 335-3-11-.06 (18)
X020	No. 7 Bleaching System – Chlorinated Stages	CO	$\leq$ 1.53 lb/ADTBP (3-run average) and/or $\leq$ 111.34 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X020	No. 7 Bleaching System – Chlorinated Stages	VOC	$\leq$ 0.2 lb/ADTBP (as carbon, 3-run average) and/or $\leq$ 14.73 lb/hr (as carbon, 3-run average)	Rule 335-3-14-.04 (9)
X020	No. 7 Bleaching System – Chlorinated Stages	TRS	$\leq$ 0.02 lb/ADTBP (as sulfur, 3-run average) and/or $\leq$ 1.48 lb/hr (as sulfur, 3-run average)	Rule 335-3-14-.04 (9)
X020	No. 7 Bleaching System – Chlorinated Stages	H_2S	$\leq$ 0.01 lb/ADTBP (3-run average) and/or $\leq$ 0.79 lb/hr (3-run average)	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the requirements of 40 CFR Part 63 General Provisions as provided for in Table 1 of Subpart S and Subpart S.	Rule 335-3-11-.06 (1) and (18)
3. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for carbon monoxide, volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. The equipment at each bleaching stage, of the bleaching system, where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements as specified in Proviso 3 of this section.	Rule 335-3-11-.06 (18)
2. The enclosures and closed-vent system shall meet the requirements specified in the Enclosures and Closed-Vent Systems Emission Standards Proviso 1(b)-(d) of MSOP 106-0010.	Rule 335-3-11-.06 (18)
3. The control device used to reduce chlorinated HAP emissions (not including chloroform) from the equipment in this section shall: (1) Reduce the total chlorinated HAP (or measured as chlorine) mass in the vent stream entering the control device by 99 percent or more by weight; (2) Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP (or measured as chlorine); or (3) Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP (or measured as chlorine) mass per megagram (0.002 pounds per ton) of ODP.	Rule 335-3-11-.06 (18)
4. To reduce chloroform emissions, the permittee shall comply with the effluent limitation guidelines specified in 40 CFR 430 (§63.445(d)(1)) or use no hypochlorite or chlorine for bleaching in the bleaching system.	Rule 335-3-11-.06 (18)
5. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply:	Rule 335-3-14-.04 (9)

Unit	Pollutant	Rate Based Limit	Mass Based Limit
No. 7 Mill Bleach Plant – Chlorinated Stages	CO	$\leq$ 1.53 lb/ADTBP (3-run average)	$\leq$ 111.34 lb/hr (3-run average)
No. 7 Mill Bleach Plant – Chlorinated Stages	VOC	$\leq$ 0.2 lb/ADTBP (as carbon, 3-run average)	$\leq$ 14.73 lb/hr (as carbon, 3-run average)
No. 7 Mill Bleach Plant – Chlorinated Stages	TRS	$\leq$ 0.02 lb/ADTBP (as sulfur, 3-run average)	$\leq$ 1.48 lb/hr (as sulfur, 3-run average)
No. 7 Mill Bleach Plant – Chlorinated Stages	H_2S	$\leq$ 0.01 lb/ADTBP (3-run average)	$\leq$ 0.79 lb/hr (3-run average)

Compliance and Performance Test Methods and Procedures

Federally Enforceable Provisos	Regulations
1. For the enclosures and closed-vent system see the Compliance and Performance Test Methods and Procedures provisos for Enclosures and Closed-Vent Systems of MSOP 106-0010.	Rule 335-3-11-.06 (18)
2. Compliance with the total chlorinated HAP emission limit shall be determined in accordance with the test method described in 40 CFR §63.457.	Rule 335-3-11-.06 (18)
3. Compliance with the CO emission limits shall be determined in accordance with 40 CFR Part 60 Method 10.	Rule 335-3-1-.05
4. Compliance with the VOC emission limits shall be determined in accordance with 40 CFR Part 60 Method 18 or 25.	Rule 335-3-1-.05
5. Compliance with the total reduced sulfur emissions limits shall be determined by Reference Method 16, 16A, 16B, or 16C.	Rule 335-3-1-.05
6. Compliance with the H_2S emission limit shall be determined in accordance with 40 CFR Part 60 Method 15, 16, 16A, 16B or 16C.	Rule 335-3-1-.05
Emission Monitoring	
1. For the enclosures and closed-vent system see the Emission Monitoring provisos for Enclosures and Closed-Vent Systems of MSOP 106-0010.	Rule 335-3-11-.06 (18)
2. 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.	Rule 335-3-11-.06 (18)
3. The CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of 40 CFR 63 Subpart S §63.445(c). (a) The pH or the oxidation/reduction potential of the gas scrubber effluent; (b) The gas scrubber liquid influent flow rate; and (c) The bleach plant scrubber ID fan continuous operating status (on/off) (See June 17, 2002 EPA Region IV letter granting approval of alternative monitoring).	Rule 335-3-11-.06 (18)
4. The bleaching system scrubber shall be operated in accordance with the parameter value ranges established in accordance with 40 CFR §63.453(n).	Rule 335-3-11-.06 (18)
5. Pursuant to 40 CFR §63.453(q), 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.	Rule 335-3-11-.06 (18)
6. Pursuant to 40 CFR §63.457(a)(2), repeat performance tests for chlorinated HAPs must be conducted at five-year intervals for the emission source which is subject to the limitations in 40 CFR §63.445.	Rule 335-3-11-.06 (18)
7. For VOC, TRS, and H_2S periodic monitoring, if any scrubber recirculation flow rate or pH (or oxidation/reduction potential) value (three-hour block average) is less than 90 percent of its respective 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.	Rule 335-3-14-.04 (9)
8. For CO periodic monitoring, if the No. 7 Mill Bleach Plant's 12-month rolling production rate exceeds 604,409 air dried tons bleached pulp (ADTBP) per year, appropriate corrective action is to be taken.	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
9. A CO, VOC, TRS, and H_2S performance test shall be performed at least once every five years.	Rule 335-3-14-.04 (9)
Recordkeeping and Reporting Requirements	
1. See the Recordkeeping and Reporting Requirements section of the Enclosures and Closed-Vent Systems provisos of MSOP 106-0010.	Rule 335-3-11-.06 (18)
2. Pursuant to 40 CFR §63.454(a), the owner or operator of this source shall comply with the recordkeeping and reporting requirements of 40 CFR §63.10, as shown in Table 1 Subpart S.	Rule 335-3-11-.06 (18)
3. Pursuant to 40 CFR §63.454(d), the owner or operator shall record all three-hour block average CMS parameters specified in Emission Monitoring Proviso 3. Records of these reading shall be maintained for five years.	Rule 335-3-11-.06 (18)
4. Records wet scrubber recirculation flow rates and pH (or oxidation/reduction potential) shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
5. Records of the No. 7 Mill Bleach Plant's monthly production rates shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
6. Pursuant to 40 CFR §63.454(g), the owner or operator must maintain the following records of malfunctions: (1) Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment. (2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63,453(q), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.	Rule 335-3-11-.06 (18)
7. Pursuant to 40 CFR §63.455(h), a chlorinated HAP emission test report shall be submitted to the Department at least once every five years.	Rule 335-3-11-.06 (18)
8. A CO, VOC, TRS, and H_2S emissions test report shall be submitted to the Department at least once every five years.	Rule 335-3-14-.04 (9)

State Only Provisos	Regulations
Applicability (State Only)	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
Emission Standards (State Only)	
1. Chlorine dioxide emissions shall not exceed 2.87 pounds per hour.	Rule 335-3-16-.05
Compliance and Performance Test Methods and Procedures (State Only)	
1. Chlorine dioxide emissions shall be measured in accordance with the impinger capture technique described in the National Council of the Paper Industry for Air and Stream Improvement, Inc. Technical Bulletin No. 520, April 1987.	Rule 335-3-16-.05
Emission Monitoring (State Only)	
1. For chlorine dioxide, perform a compliance test at least once every five years.	Rule 335-3-16-.05
Emission Monitoring (State Only)	
1. A chlorine dioxide emission test report shall be submitted to the Department at least once every five years.	Rule 335-3-16-.05

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X020
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Bleaching System

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [ ] NESHAP [X] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X030	No. 7 Mill Slaker (19.3 Tons CaO/hr w/Water Spray)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. Prior date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 30 working days of completion of testing.

Particulates .....(X)	Carbon Monoxide..... ()
Sulfur Dioxide..... ()	Nitrogen Oxides ..... ()
Volatile Organic Compounds..... ()	Sulfuric Acid Mist..... ()
Total Reduced Sulfur .....(X)	

15. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter

media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

16. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

17. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

18. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

19. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Mill Slaker
Informational Summary

Description: No. 7 Mill Slaker

Emission Unit No: X030

Installation Date: 2025 (TBD) **Reconstruction / Modification date**:

Operating Capacity: 19.3 Tons CaO/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X030	No. 7 Mill Slaker	Filterable PM	$\leq$ 0.029 lb/ton CaO (3-run average) and/or $\leq$ 0.56 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X030	No. 7 Mill Slaker	Filterable PM_{10}	$\leq$ 0.029 lb/ton CaO (3-run average) and/or $\leq$ 0.56 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X030	No. 7 Mill Slaker	Filterable $PM_{2.5}$	$\leq$ 0.029 lb/ton CaO (3-run average) and/or $\leq$ 0.56 lb/hr (3-run average)	Rule 335-3-14-.04 (9)
X030	No. 7 Mill Slaker	TRS	$\leq$ 0.105 lb/ton CaO (as sulfur, 3-run average) and/or $\leq$ 2.03 lb/hr (as sulfur, 3-run average)	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter, total particulate matter with a diameter of 10 micrometers or less, total particulate matter with a diameter of 2.5 micrometers or less, and total reduced sulfur.	Rule 335-3-14-.04 (9)
Emission Standards	
1. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply:	Rule 335-3-14-.04 (19)

Pollutant	Rate Based Limit	Mass Based Limit
Filterable PM	0.029 lb/ton CaO (3-run average)	0.56 lb/hr (3-run average)
Filterable PM_{10}	0.029 lb/ton CaO (3-run average)	0.56 lb/hr (3-run average)
Filterable $PM_{2.5}$	0.029 lb/ton CaO (3-run average)	0.56 lb/hr (3-run average)
TRS	0.105 lb/ton CaO (as sulfur, 3-run average)	2.03 lb/hr (as sulfur, 3-run average)

Compliance and Performance Test Methods and Procedures	
1. Compliance with the filterable particulate matter emissions limits shall be determined by Reference Method 5 or 17 in Appendix A of 40 CFR 60.	Rule 335-3-1-.05
2. Compliance with the total reduced sulfur emissions limits shall be determined by Reference Method 16, 16A, 16B, or 16C.	Rule 335-3-1-.05
Emission Monitoring	
1. A filterable PM, PM_{10}, $PM_{2.5}$, and TRS emissions test shall be performed every five years.	Rule 335-3-14-.04
2. For particulate matter, PM_{10}, $PM_{2.5}$, and TRS emissions periodic monitoring, if any three-hour rolling average water spray flow rate is below 90 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the flow rate is to be raised until compliance is successfully demonstrated at the higher rate.	Rule 335-3-14-.04
Recordkeeping and Reporting Requirements	
1. A filterable PM, $PM_{10,}$ $PM_{2.5}$, and TRS emissions test shall be submitted at least once every five years.	Rule 335-3-14-.04
2. Records of all three-hour rolling average water spray flow rates shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X030
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Mill Slaker

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [ ] NESHAP [ ] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X108	No. 7 Mill Pulp Dryer (80.2 ADTFP/hr)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Mill Pulp Dryer
Informational Summary

Description: No. 7 Mill Pulp Dryer

Emission Unit No: X108

Installation Date: 2025 (TBD) **Reconstruction / Modification date**:

Operating Capacity: 80.2 ADTFP/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X108	No. 7 Mill Pulp Dryer	Filterable PM	≤ 0.02 lb/ADTFP (12-month rolling average) and/or ≤ 1.60 lb/hr (12-month rolling average)	Rule 335-3-14-.04 (9)
X108	No. 7 Mill Pulp Dryer	PM_{10}	≤ 0.03 lb/ADTFP (12-month rolling average) and/or ≤ 2.41 lb/hr (12-month rolling average)	Rule 335-3-14-.04 (9)
X108	No. 7 Mill Pulp Dryer	$PM_{2.5}$	≤ 0.023 lb/ADTFP (12-month rolling average) and/or ≤ 1.84 lb/hr (12-month rolling average)	Rule 335-3-14-.04 (9)
X108	No. 7 Mill Pulp Dryer	VOC	≤ 0.149 lb/ADTFP (12-month rolling average) and/or ≤ 11.99 lb/hr (12-month rolling average)	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04(9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for filterable particulate matter, total particulate matter with a diameter of 10 micrometers or less, total particulate matter with a diameter of 2.5 micrometers or less, and volatile organic compounds.	Rule 335-3-14-.04 (9)
Emission Standards	
1. Such that the standards for Best available Control Technology (BACT) shall be met, the following standards shall apply:	Rule 335-3-14-.04 (9)

Pollutant	Rate Based Limit	Mass Based Limit
Filterable PM	$\leq$ 0.02 lb/ADTFP (12-month rolling average)	$\leq$ 1.60 lb/hr and 6.39 tpy (12-month rolling average)
PM_{10}	$\leq$ 0.03 lb/ADTFP (12-month rolling average)	$\leq$ 2.41 lb/hr and 9.58 tpy (12-month rolling average)
$PM_{2.5}$	$\leq$ 0.023 lb/ADTFP (12-month rolling average)	$\leq$ 1.84 lb/hr and 7.34 tpy (12-month rolling average)
VOC	$\leq$ 0.149 lb/ADTFP (12-month rolling average)	$\leq$ 11.99 lb/hr and 47.73 tpy (12-month rolling average)

2. No more than 80.2 air dried tons of finished paper may be produced by this source per hour based on a 12-month rolling average.	Rule 335-3-14-.04 (9)
Compliance and Performance Test Methods and Procedures	
1. Compliance with the filterable PM, PM_{10}, $PM_{2.5}$, and VOC emission limits shall be determined through emissions tracking.	Rule 335-3-14-.04 (9)
Emission Monitoring	
1. The No. 7 Mill Pulp Dryer's production rate shall be monitored.	Rule 335-3-14-.04 (9)
Recordkeeping and Reporting Requirements	
1. Records of all calculated monthly PM, PM_{10}, $PM_{2.5}$, and VOC emissions shall be made and maintained on file available for inspection for at least five years.	Rule 335-3-14-.04 (9)
2. Records of the No. 7 Mill Pulp Dryer's production shall be made and maintained in a form suitable for inspection for at least five years.	Rule 335-3-14-.04 (9)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X108
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Mill Pulp Dryer

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-X321	New or Modified Tall Oil Reactor and Associated Equipment (7.6 Tons Tall Oil/hr w/ Wet Scrubber and Thermal Oxidation)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

New or Modified Tall Oil Reactor and Associated Equipment
Informational Summary

Description: New or Modified Tall Oil Reactor and Associated Equipment

Emission Unit No: X321

Installation Date: 2025 (TBD) **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 7.6 Tons Tall Oil/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
X321	New or Modified Tall Oil Reactor and Associated Equipment	VOC	Incineration	Rule 335-3-14-.04 (9)
X321	New or Modified Tall Oil Reactor and Associated Equipment	TRS	Incineration	Rule 335-3-14-.04 (9)
X321	New or Modified Tall Oil Reactor and Associated Equipment	H_2S	Incineration	Rule 335-3-14-.04 (9)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the applicable requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. Such that the standards for Best available Control Technology (BACT) shall be met for VOC, TRS, and H_2S emissions, gases discharged from the New or Modified Tall Oil Reactor Scrubber shall be collected in the HVLC closed vent system meeting the requirements of §63.450 and combusted in a control device as described in §63.443(d). Periods of excess emissions (venting) that are reported under §63.455 shall not be considered a violation provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed four percent for control devices used to reduce the total HAP emissions from the HVLC system.	Rule 335-3-14-.04 (9)
2. See “Provisos for Pulping System Processes” and “Enclosures and Closed-Vent Systems” of MSOP 106-0010 for additional requirements.	Rule 335-3-14-.04 (9)
Compliance and Performance Test Methods and Procedures	
1. See “Provisos for Pulping System Processes” and “Enclosures and Closed-Vent Systems” of MSOP 106-0010 for additional requirements.	Rule 335-3-14-.04 (9)
Emission Monitoring	
1. See “Provisos for Pulping System Processes” and “Enclosures and Closed-Vent Systems” of MSOP 106-0010 for additional requirements.	Rule 335-3-14-.04 (9)
Recordkeeping and Reporting Requirements	
1. See “Provisos for Pulping System Processes” and “Enclosures and Closed-Vent Systems” of MSOP 106-0010 for additional requirements.	Rule 335-3-14-.04 (9)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-X321
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	New or Modified Tall Oil Reactor and Associated Equipment

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [ ] NESHAP [ ] SIP [X] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-Z004	No. 7 Continuous Digester (79.1 ADTUBP/hr)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Continuous Digester
Informational Summary

Description: No. 7 Continuous Digester

Emission Unit No: Z004

Installation Date: 2025 (TBD) **Reconstruction / Modification date**:

Operating Capacity: 79.1 ADTUBP/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BBa
40 CFR Part 63 Subpart S

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
Z004	No. 7 Continuous Digester	VOC	Incineration	Rule 335-3-14-.04 (9)
Z004	No. 7 Continuous Digester	TRS	Incineration	Rule 335-3-10-.02 (28)(a) Rule 335-3-14-.04 (9)
Z004	No. 7 Continuous Digester	H_2S	Incineration	Rule 335-3-14-.04 (9)
Z004	No. 7 Continuous Digester	HAPs	Incineration	Rule 335-3-11-.06 (18)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. The No. 7 Continuous Digester is subject to federal New Source Performance Standards Subpart BBa and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)(a)
3. The No. 7 Continuous Digester is subject to federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S (See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" of MSOP 106-0010 for additional requirements).	Rule 335-3-11-.06 (1) and (18)
4. The No. 7 Continuous Digester is subject to the requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. For the No. 7 Continuous Digester all gases discharged that contain total reduced sulfur in excess of 5 parts per million corrected to 10 percent oxygen shall be collected in an LVHC or HVLC closed vent system meeting the requirements of §63.450 and combusted in a lime kiln, recovery furnace, or incinerator or other device subjecting the gases to a minimum temperature of 1200 degrees Fahrenheit for at least 0.5 seconds.	Rule 335-3-10-.02 (28)(a)
2. Such that the standards for Best available Control Technology (BACT) shall be met for VOC, TRS, and H_2S emissions, gases discharged from the No. 7 Continuous Digester shall be collected in an LVHC or HVLC closed vent system meeting the requirements of §63.450 and combusted in control device as described in §63.443(d). Periods of excess emissions (venting) that are reported under §63.455 shall not be considered a violation provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed one percent for control devices used to reduce the total HAP emissions from the LVHC system or four percent for control devices used to reduce the total HAP emissions from the HVLC system.	Rule 335-3-14-.04 (9)
3. For the No. 7 Continuous Digester see "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Compliance and Performance Test Methods and Procedures	
1. For the No. 7 Continuous Digester see "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Emission Monitoring	
1. For the No. 7 Continuous Digester see "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Recordkeeping and Reporting Requirements	
1. For the No. 7 Continuous Digester see "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-Z004
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Continuous Digester and Chip Bin

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [ ] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-Z007	No. 7 Brown Stock Washer System (79.1 ADTUBP/hr)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be submitted to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The

device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

12. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

13. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

14. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

15. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

16. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

    (a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

    (b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

    (c) by paving;

    (d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

    Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

17. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

18. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

19. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

20. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

21. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.

2. The compliance status, whether continuous or intermittent.
3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
4. Other facts the Department may require to determine the compliance status of the source.

The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Brown Stock Washer System
Informational Summary

Description: No. 7 Brown Stock Washer System

Emission Unit No: Z007

Installation Date: 1976 **Reconstruction / Modification date**: 2025 (TBD)

Operating Capacity: 79.1 ADTUBP/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart BBa
40 CFR Part 63 Subpart S

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
Z007	No. 7 Brown Stock Washer System	VOC	Incineration	Rule 335-3-14-.04 (9)
Z007	No. 7 Brown Stock Washer System	TRS	Incineration	Rule 335-3-10-.02 (28)(a) Rule 335-3-14-.04 (9)
Z007	No. 7 Brown Stock Washer System	HAPs	Incineration	Rule 335-3-11-.06 (18)

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to federal New Source Performance Standards Subpart BBa and 40 CFR 60 Subpart A, General Provisions.	Rule 335-3-10-.02 (1) and (28)(a)
3. This source is subject to federal National Emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart S and Subpart S (See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" of MSOP 106-0010 for additional requirements).	Rule 335-3-11-.06 (1) and (18)
4. This source is subject to the requirements of ADEM Admin. Code 335-3-14-.04 (9) Prevention of Significant Deterioration (PSD) Best Available Control Technology (BACT) limits for volatile organic compounds, total reduced sulfur, and hydrogen sulfide.	Rule 335-3-14-.04 (9)
Emission Standards	
1. All gases discharged that contain total reduced sulfur in excess of 5 parts per million corrected to 10 percent oxygen shall be collected in an LVHC or HVLC closed vent system meeting the requirements of §63.450 and combusted in a lime kiln, recovery furnace, or incinerator or other device subjecting the gases to a minimum temperature of 1200 degrees Fahrenheit for at least 0.5 seconds.	Rule 335-3-10-.02 (28)(a)
2. Such that the standards for Best available Control Technology (BACT) shall be met for VOC, TRS, and H_2S emissions, gases discharged from the No. 7 Brown Stock Washer System shall be collected in an HVLC closed vent system meeting the requirements of §63.450 and combusted in a control device as described in §63.443(d). Periods of excess emissions (venting) that are reported under §63.455 shall not be considered a violation provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed four percent for control devices used to reduce the total HAP emissions from the HVLC system.	Rule 335-3-14-.04 (9)
3. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Compliance and Performance Test Methods and Procedures	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Emission Monitoring	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)
Recordkeeping and Reporting Requirements	
1. See "Provisos for Pulping System Processes", "Process Condensates", and "Enclosures and Closed-Vent Systems" of MSOP 106-0010 for additional requirements.	Rule 335-3-11-.06 (18)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-Z007
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Brown Stock Washer System

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [X] SMS [ ] NAME [ ] MOD [ ] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [ ] OTHER: PSD/BACT

Alabama Department of Environmental Management

AIR PERMIT

PERMITTEE: GEORGIA-PACIFIC CELLULOSE

FACILITY NAME: ALABAMA RIVER CELLULOSE, LLC

LOCATION: PERDUE HILL, AL

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE OR DEVICE
106-0010-Z008	No. 7 Power Boiler (598.4 MMBtu/hr w/ Two Wet Scrubbers)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22-28-1 to 22-28-23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22-22A-1 to 22-22A-17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: DRAFT, 2025

Alabama Department of Environmental Management

General Permit Provisos

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

9. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

10. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

11. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

12. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.
    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).
    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.
    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 30 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

13. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

14. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

    Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

(a) by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

(b) by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

(c) by paving;

(d) by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.

15. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

16. Should this facility, at any time, exceed the emission limits, the permittee shall notify the Air Division within two (2) working days of determining that the exceedance occurred.

17. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

18. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

19. The permittee shall submit an annual compliance certification to the Department no later than 60 days following the anniversary of the issuance of this permit or with the Annual Major Source Operating Permit certification. The compliance certification shall include the following:
    1. The identification of each term or condition of this permit that is the basis of the certification.
    2. The compliance status, whether continuous or intermittent.
    3. The method(s) used for determining the compliance status of the source, currently and over the reporting period.
    4. Other facts the Department may require to determine the compliance status of the source.

    The compliance certification shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

No. 7 Power Boiler
Informational Summary

Description: No. 7 Power Boiler

Emission Unit No: Z008

Installation Date: 1978 **Reconstruction / Modification date**: N/A

Operating Capacity: 598.4 MMBtu/hr

Operating Schedule: 8760 hours/year

This unit contains equipment that is subject to the following NSPSs, NESHAPs, or MACTs:

40 CFR Part 60 Subpart D
40 CFR Part 63 Subpart DDDDD

Pollutants Emitted

Emission Point #	Point Description	Pollutant	Emission Limit	Standard
Z008	No. 7 Power Boiler	PM	$\leq$ 0.10 lb/MMBtu heat input	Rule 335-3-10-.02 (2)
Z008	No. 7 Power Boiler	Filterable PM	$\leq$ 0.44 lb/MMBtu (0.55 lb/MMBtu of steam output)	Rule 335-3-11-.06 (107)
Z008	No. 7 Power Boiler	CO	$\leq$ 3,500 ppm by volume on a dry basis corrected to 3% oxygen, or 3.5 lb/MMBtu of steam output, on a 3-run average	Rule 335-3-11-.06 (107)
Z008	No. 7 Power Boiler	SO_2	$\leq$ 0.80 lb/MMBtu heat input (when firing fossil fuel alone or in combination with wood waste)	Rule 335-3-10-.02 (2)
Z008	No. 7 Power Boiler	SO_2	The fuel oil sulfur content $\leq$ 0.25% by weight	Rule 335-3-16-.01 (1)(i) & Rule 335-3-16-.06 (1)
Z008	No. 7 Power Boiler	NO_x	$\leq$ 0.30 lb/MMBtu heat input (wood waste or wood waste and fossil fuel); $\leq$ 0.20 lb/MMBtu heat input (Nat. gas only)	Rule 335-3-10-.02 (2)
Z008	No. 7 Power Boiler	Opacity	$\leq$ 20% with one 6-minute period up to 27% in any hour	Rule 335-3-10-.02 (2) and Rule 335-3-4-.01
Z008	No. 7 Power Boiler	HCl	$\leq$ 0.022 lb/MMBtu (0.025 lb/MMBtu of steam output) $\leq 2.0 \times 10^{-2}$ lb/MMBtu (2.3×10^{-2} lb/MMBtu of steam output) (Effective October 6, 2025)	Rule 335-3-11-.06 (107)
Z008	No. 7 Power Boiler	Hg	$\leq$ 5.7E-06 lb/MMBtu (6.4E-06 lb/MMBtu of steam output) $\leq$ 5.4E-06 lb/MMBtu (6.2E-06 lb/MMBtu of steam output) (Effective October 6, 2025)	Rule 335-3-11-.06 (107)

Permitted Fuels

Fuel	Max % Sulfur	Max % Ash
Wood		
Glycerin		
Biodiesel		
Tall Oil		
Fuel Oil (2-5)	0.25	
Natural Gas		

Federally Enforceable Provisos	Regulations
Applicability	
1. This source is subject to the applicable requirements of Rule 335-3-16-.03, "Major Source Operating Permits".	Rule 335-3-16-.03
2. This source is subject to the applicable requirements of Rule 335-3-10-.02 (2) New Source Performance Standards 40 CFR 60 - Subpart D for nitrogen oxide, particulate matter, and sulfur dioxide emissions.	Rule 335-3-10-.02 (1) and (2)
3. This Source is subject to the requirements of ADEM Admin. Code 335-3-16-.01(1)(i) & 335-3-16-.06(1) for sulfur dioxide.	Rule 335-3-16-.01 (1)(i) & Rule 335-3-16-.06 (1)
4. This source is subject to the requirements of ADEM Admin. Code R. 335-3-4-.01 for opacity.	Rule 335-3-4-.01
5. This source is subject to the applicable requirements of 40 CFR Part 63 Subpart A as provided for in Table 10 of Subpart DDDDD and 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 an existing hybrid suspension grate unit.	Rule 335-3-11-.06 (1) and (107)
Emission Standards	
1. Particulate matter emissions shall not exceed 0.10 pound per MMBtu heat input.	Rule 335-3-10-.02 (2)
2. As a surrogate for HAPs, filterable particulate matter emissions shall not exceed 0.44 pound per MMBtu of heat input or 0.55 pound per MMBtu of steam output.	Rule 335-3-11-.06 (107)
3. As a surrogate for HAPs, carbon monoxide emissions shall not exceed 3,500 parts per million by volume on a dry basis corrected to 3 percent oxygen, or 3.5 pounds per MMBtu of steam output, on a 3-run average.	Rule 335-3-11-.06 (107)
4. Sulfur dioxide emissions shall not exceed 0.80 pound per MMBtu heat input.	Rule 335-3-10-.02 (2)
5. The fuel oil sulfur content shall not exceed 0.25 percent by weight.	Rule 335-3-16-.01(1)(i) & Rule 335-3-16-.06(1)
6. Nitrogen oxide emissions shall not exceed 0.30 pound per MMBtu heat input when wood waste or wood waste and fossil fuel (natural gas or fuel oil) are fired.	Rule 335-3-10-.02 (2)
7. Nitrogen oxide emissions shall not exceed 0.20 pound per MMBtu heat input when natural gas is fired.	Rule 335-3-10-.02 (2)
8. In accordance with 40 CFR 60.44(b), when different fossil fuels are burned simultaneously in any combination, the applicable standard for Nitrogen oxide emissions (in ng/J) is determined by proration using the following formula: $PS_{NO_x} = \frac{w\,(260) + x\,(86) + y\,(130) + z\,(300)}{(w + x + y + z)}$ Where: PS_{NOX} = Prorated standard for NOX when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels fired or from all fossil fuels and wood residue fired; w = Percentage of total heat input derived from lignite; x = Percentage of total heat input derived from gaseous fossil fuel; y = Percentage of total heat input derived from liquid fossil fuel; and z = Percentage of total heat input derived from solid fossil fuel (except lignite).	Rule 335-3-10-.02 (2)

Federally Enforceable Provisos	Regulations
9. Opacity shall not be greater than 20 percent except for one 6-minute period per hour of not more than 27 percent.	Rule 335-3-10-.02 (2)
10. Hydrogen chloride emissions shall not exceed 0.022 pound per MMBtu of heat input or 0.025 pound per MMBtu of steam output. Effective October 6, 2025, hydrogen chloride emissions shall not exceed $2.0x10^{-2}$ pound per MMBtu of heat input or $2.3x10^{-2}$ pound per MMBtu of steam output.	Rule 335-3-11-.06 (107)
11. Mercury emissions shall not exceed 5.7E-06 pound per MMBtu of heat input or 6.4E-06 pound per MMBtu of steam output. Effective October 6, 2025, mercury emissions shall not exceed 5.4E-06 pound per MMBtu of heat input or 6.2E-06 pound per MMBtu of steam output.	Rule 335-3-11-.06 (107)
12. In order to demonstrate compliance with the carbon monoxide limits, operate an oxygen trim system with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent carbon monoxide performance test.	Rule 335-3-11-.06 (107)
13. Pursuant to 40 CFR 63.7540(a)(12), boilers with a continuous oxygen trim system that maintains an optimum air to fuel ratio, must conduct a tune-up of the boiler every 5 years as specified in 63.7540(a)(10)(i) – (vi).	Rule 335-3-11-.06 (107)
14. At all times, you 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.	Rule 335-3-11-.06 (107)
15. The standards of §63.7500 apply at all times the unit is operating, except during periods of startup and shutdown during which time you must comply only with items 5 and 6 of Table 3 of 40 CFR Part 63 Subpart DDDDD.	Rule 335-3-11-.06 (107)
Compliance and Performance Test Methods and Procedures	
1. Compliance with the filterable PM emissions limits shall be determined in accordance with 40 CFR Part 60 Method 5 or 17. For compliance with 40 CFR Part 63 Subpart DDDDD, the facility must follow the procedures of §63.7520 and Tables 2, 5, and 7 of Subpart DDDDD.	Rule 335-3-11-.06 (107)
2. Compliance with the SO_2 emission limit shall be determined in accordance with 40 CFR Part 60 Method 6.	Rule 335-3-1-.05
3. Compliance with the NOx emissions limits shall be determined in accordance with 40 CFR Part 60 Method 7 or 7E.	Rule 335-3-1-.05
4. Compliance with the opacity limit shall be determined in accordance with the 40 CFR Part 60 Method 9.	Rule 335-3-1-.05
5. Compliance with the Hg limit shall be determined in accordance with 40 CFR Part 60 Method 29, 30A, or 30B in Appendix A, Method 101A of 40 CFR Part 61 Appendix B, or ASTM Method D6784. The facility must follow the procedures of §63.7520 and Tables 2, 5, and 7 of Subpart DDDDD.	Rule 335-3-11-.06 (107)
6. Compliance with the HCl emission limit shall be determined in accordance with 40 CFR Part 60 Method 26 or 26A. The facility must follow the procedures of §63.7520 and Tables 2, 5, and 7 of Subpart DDDDD.	Rule 335-3-11-.06 (107)
7. Compliance with the CO emissions limits shall be determined in accordance with 40 CFR Part 60 Method 10.	Rule 335-3-11-.06 (107)
8. This source shall meet the energy assessment and tune-up requirements found in Table 3 of 40 CFR Part 63, Subpart DDDDD as referenced in 40 CFR 63.7540(a).	Rule 335-3-11-.06 (107)

Federally Enforceable Provisos	Regulations
9. Startup and shutdown procedures for this unit shall be followed in accordance with Table 3 of 40 CFR Part 63 Subpart DDDDD.	Rule 335-3-11-.06 (107)
Emission Monitoring	
1. A filterable PM emission test shall be performed at least once per year. The tests shall be conducted at intervals no less than 6 months from the previous test and no greater than 18 months from the previous test.	Rule 335-3-16-.05
2. A particulate matter, mercury, hydrogen chloride, and carbon monoxide performance test shall be performed annually within 13 months of the previous tests. If performance tests for at least 2 consecutive years show that the pollutant emissions are at or below 75 percent of the respective 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 the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. A notification of performance testing must be submitted in writing to the Department at least 60 calendar days prior to the date of the scheduled performance test, pursuant to §63.9(e).	Rule 335-3-11-.06 (107)
3. For particulate matter, sulfur dioxide and nitrogen oxide periodic monitoring, if any three-hour block average steam production 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 steam production rate is to be lowered until compliance is successfully demonstrated at the higher rate.	Rule 335-3-16-.05
4. For particulate matter periodic monitoring, if any three-hour block average wet scrubber pressure drop or liquid flow rate of either venturi 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.	Rule 335-3-16-.05
5. For sulfur dioxide periodic monitoring obtain fuel receipts from the fuel oil supplier that certify sulfur content in fuel for every load received by the mill.	Rule 335-3-16-.05
6. A sulfur dioxide emission test shall be performed at least once every 5 years.	Rule 335-3-16-.05
7. A nitrogen oxide emission test shall be performed at least once every 5 years.	Rule 335-3-16-.05
8. Since this unit is controlled by a wet scrubber, opacity periodic monitoring will be satisfied through particulate matter emission periodic monitoring.	Rule 335-3-16-.05
9. Pursuant to §63.7500(a)(2) and Table 4, The facility shall maintain the 30-day rolling average operating load or steam generation rate such that it does not exceed 110 percent of the highest hourly average operating load or steam generation rate recorded during the performance test.	Rule 335-3-11-.06 (107)
10. In accordance with 40 CFR §63.7525(e), a scrubber flow monitor shall be installed operated, and maintained pursuant to Table 4. The 30-day rolling average scrubber flow rate shall be maintained at or above the level measured during the most recent performance test.	Rule 335-3-11-.06 (107)
11. In accordance with 40 CFR §63.7525(f), a scrubber pressure monitor shall be installed operated, and maintained pursuant to Table 4. The 30-day rolling average scrubber pressure drop shall be maintained at or above the level measured during the most recent performance test.	Rule 335-3-11-.06 (107)

Federally Enforceable Provisos	Regulations
12. Pursuant to §63.7530(b), 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).	Rule 335-3-11-.06 (107)
13. 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.	Rule 335-3-11-.06 (107)
Recordkeeping and Reporting Requirements	
1. A filterable PM emission test report shall be submitted to the Department at least once per year.	Rule 335-3-16-.05
2. The three-hour block average steam production rate and wet scrubber pressure drop and liquid flow rate shall be recorded continuously.	Rule 335-3-16-.05
3. Fuel receipts from the fuel oil supplier that certify sulfur content in fuel for every load received by the mill shall be maintained on site available for inspection for at least five years.	Rule 335-3-16-.05
4. A sulfur dioxide emission test report shall be submitted to the Department at least once every five years.	Rule 335-3-16-.05
5. A nitrogen oxide emission test report shall be submitted to the Department at least once every five years.	Rule 335-3-16-.05
6. A site-specific monitoring plan shall be developed in accordance with 40 CFR Part 63.7505(d), kept on file, and be readily available for review.	Rule 335-3-11-.06 (107)
7. A record of the 30-day rolling average steaming rate shall be made and maintained on file available for inspection for at least five years. If an emission limit exceedance is indicated, make a note in the records and make a note of the corrective action that was taken.	Rule 335-3-11-.06 (107)
8. A record of the 30-day rolling average scrubber flow rate shall be made and maintained on file available for inspection for at least five years. If an emission limit exceedance is indicated, make a note in the records and make a note of the corrective action that was taken.	Rule 335-3-11-.06 (107)
9. A record of the 30-day rolling average scrubber differential pressure shall be made and maintained on file available for inspection for at least five years. If an emission limit exceedance is indicated, make a note in the records and make a note of the corrective action that was taken.	Rule 335-3-11-.06 (107)
10. Pursuant to §63.7515(f), the facility must report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. The report must verify the operating limits for each boiler have not changed or provide documentation of revised operating limits according to §63.7530 and Table 7.	Rule 335-3-11-.06 (107)
11. When conducting a performance test under 40 CFR §63 Subpart DDDDD, the facility must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.	Rule 335-3-11-.06 (107)
12. This source shall maintain all applicable records required under 40 CFR §63.7555. Records must be readily available for review according to §63.10(b)(1) for a period of 5 years.	Rule 335-3-11-.06 (107)
13. This source shall submit all applicable reports required under 40 CFR §63.7550 and Table 9.	Rule 335-3-11-.06 (107)

CHECKLIST FOR ISSUANCE OF AIR PERMIT

Permit Number:	106-0010-Z008
Company:	Alabama River Cellulose, LLC
Location:	Perdue Hill, Alabama
Description of Permit Unit	No. 7 Power Boiler

Pollutant Type:

Particulates	01	Total Reduced Sulfur	06	Lead	11
Sulfur Oxides	02	Asbestos	07	Mercury	12
Carbon Monoxide	03	Beryllium	08	Benzene	13
Hydrocarbons	04	Chlorine	09		
Nitrogen Oxides	05	Hydrogen Sulfide	10		

Pollutant Type	Expected Emissions (ppm)	Method of Estimate	Uncontrolled Emissions (lbs/hr)	Controlled Emissions (lbs/hr)	Allowable Emissions (lbs/hr)

Operating Hours per year: 8760

Provisos: See Attached

Mail to: Ms. Nikki Turner
Environmental Engineer
Alabama River Cellulose, LLC
2373 Lena Landegger Hwy
Perdue Hill, AL 36470

Engineer: Steven Bissey

Date: DRAFT, 2025

Type: PSD [ ] SMS [ ] NAME [ ] MOD [X] TEMP [ ] OTHER _____

Source: NSPS [X] NESHAP [X] SIP [X] OTHER: