Statement of Basis
Packaging Corporation of America – Jackson Mill
102-0001

Packaging Corporation of America (PCA) has applied for a renewal of Major Source Operating Permit (MSOP) 102-0001. This proposed Title V Major Source Operating Permit is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

The facility originally began operations in 1965. The initial Title V MSOP was issued on June 1, 2003, and this is the fourth renewal. The current MSOP was issued on October 1, 2020, with an effective date of October 1, 2020, and will expire on June 30, 2025. There was a Significant Modification of the Title V Permit issued on December 14, 2021. The fourth renewal application was received on October 22, 2024. The Department received a name change application on July 14, 2025, to transfer legal ownership of the Mill to PCA from Boise White Paper, LLC. This name change is reflected in the draft renewal permit.

The facility is located in Clarke County, which is currently listed as in attainment/unclassifiable with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against PCA necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at https://echo.epa.gov/ (Search using Facility ID 110000369280)

Background
PCA is a pulp and paper mill located in Jackson, Alabama. The Jackson, AL site is located in Clarke County, which is classified as a Class II County for particulates. The mill produces unbleached pulp, which is converted into various grades of paper, paperboard, or corrugated medium. The facility is a major source with respect to Title V, Prevention of Significant Deterioration (PSD), and the Maximum Achievable Control Technology (MACT)/ New Emission Standards for Hazardous Air Pollutants (NESHAP) standards. PCA is a major source operating facility for the following pollutants: Filterable Particulate Matter (PM), PM_{10}, $PM_{2.5}$, Condensable PM, Nitrogen Oxides (NOx), Sulfur Dioxide (SO_2), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), Total Reduced Sulfides (TRS), Carbon Dioxide (CO_2), Total Hazardous Air Pollutants (HAPs), Acetaldehyde, Chloromethane, Hydrochloric Acid, and Methanol.

The Mill went through a PSD project in 2021 and received air permits 102-0001-X033 and X034 for the paper machines and brownstock washing system, respectively. These air permits will be incorporated into the Title V during this fourth renewal.

The Mill also went through a Significant Modification, issued on December 14, 2021. The following sections were removed as a result of the Significant Modification:

- Bleaching Plant (Emission Unit S445)
- Chlorine Dioxide Generator (Emission Unit X014)
- Deink Plant (Emission Unit X028)

Pulp Mill

The pulp mill is considered a single line pulp mill since there is essentially only one continuous set of equipment on which the pulp is produced. The batch digester system and the pulp washing system make up the pulp mill. Both hardwood and softwood pulps are produced at this facility; however, only one type is typically run at a time. The Mill uses the Kraft process for conversion of wood chips to pulp.

Brown Stock Washer System

The batch digester system is the area in the pulp mill in which wood chips are converted into unbleached pulp through the use of a mixture of sodium hydroxide and sodium sulfide (white liquor) and pressure. The Mill operates six batch digesters to "cook" the wood chips, taking the chips and turning them into pulp to be used to make paper. The cooking process, occurring in the digester system, consists of six steps: chip filling, pre-steaming, white liquor addition, temperature increase, cooking, and blowing. The gases from the digester system are collected in the low volume high concentration (LVHC) system for treatment. The Nos. 1-4 Digesters were installed in 1964, the No. 5 Digester was installed in 1973, and the No. 6 Digester was installed in 1983. The Nos. 1-6 Batch Digesters have an operating capacity of 120,833 pounds of air-dry pulp per hour.

The brown stock washer system is split into an "A-Line Pulp Washing System" and a "B-Line Pulp Washing System". In the pulp washing system, the pulp from the digester is passed over rotary drum vacuum washers. In the "A-Line", there are four rotary drums. In the "B-Line", there are three rotary drums. This process helps remove the pulping liquor from the pulp. This process is counter-current flow, with the unwashed pulp entering the first washer and the cleanest shower water entering at the last washer stage. The drums use filtrate from the next stage to wash the pulp on the drum. The exhaust gases from the vacuum drum washers and the filtrate tanks are collected in the high volume low concentration (HVLC) system for treatment. The A-Line Brown Stock Washer was installed in 1993 and B-Line Brown Stock Washer was installed in 1996 and modified in 2022. Air Permit 102-0001-X034 was issued on April 16, 2021, and will be incorporated into the Title V during the fourth renewal. The A-Line Brown Stock Washer has an operating capacity of 75,250 pounds of air-dry pulp per hour and the B-Line Brown Stock Washer has an operating capacity of 66,667 pounds of air-dry pulp per hour.

Control Equipment:

The LVHC gases produced from the digesters must be captured and conveyed to a boiler or lime kiln for thermal destruction at a minimum temperature of 1200 °F and a minimum residence time of 0.5 seconds.

The HVLC gases produced by the A-Line Pulp Washing System and B-Line Pulp Washing System must be captured and conveyed to a boiler or lime kiln for thermal destruction at a minimum temperature of 1200 °F and a minimum residence time of 0.5 seconds.

The Mill has elected to control the emissions by routing these gases to the Combination Boiler (primary) or the Lime Kiln (backup) for incineration.

Emission Limits and Proposed Periodic Monitoring:
The Nos. 1-6 Batch Digesters, A-Line Brown Stock Washers, and B-Line Brown Stock washers are subject to:

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

The A-Line and B-Line Brown Stock Washers and No. 6 Batch Digester are subject to:

- The applicable requirements of Federal New Source Performance Standards Subpart BB for TRS.

The Nos. 1-5 Batch Digesters are subject to:

- The requirements of ADEM Admin. Code 335-3-5-.04 (5) for total reduced sulfur.

The Nos. 1-6 Batch Digesters, A-Line Brown Stock Washers, and B-Line Brown Stock Washers emission monitoring requirements are:

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

Changes During the Fourth Title V Renewal:

- Incorporated Air Permit 102-0001-X034 into the Title V.
- Retitled this section "Pulp Mill" instead of "Brown Stock System".
- On Informational page, differentiated "Brown Stock Washer" into "A-Line Brown Stock Washers" and "B-Line Brown Stock Washers".
- Under Applicability Section, differentiated Brown Stock Washers between "A-Line" and "B-Line"
- Under Emission Standards, differentiated Brown Stock Washers between "A-Line" and "B-Line
- Added periodic monitoring for incineration requirements for total reduced sulfur gases. These requirements are met through the provisos of the "Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" sections.

Recausticizing Area

Recausticizing is the conversion of sodium carbonate in green liquor to sodium hydroxide in white liquor by a reaction with lime. The green liquor is pumped from the smelt dissolving tank to the gravity clarifier where the insoluble impurities, called dregs, are removed from the system. The clarified green liquor is pumped to the slaker where it is combined with lime. After this, the mixture from the slaker flows to the causticizers, which provide the retention time for reaction to occur. The slurry is then pumped from causticizer to a clarifier, where the lime mud is settled. The clarified liquor is pumped to white liquor storage for re-use in the digester.

Lime Kiln

The lime mud from the mud washer is fed to the Lime Kiln and burned in the rotary cyclical kiln in order to recover the lime for use in the slaker. The temperature of the firing end of the lime kiln is approximately 1,800 to 2,000 °F. The exit temperature of the gases at the lime mud feed end of the kiln is approximately 450 °F. The dewatered mud is fed to the lime kiln by a screw conveyer. The lime kiln is fired with natural gas and/or fuel oil. The NCGs collected in the LVHC and HVLC systems are also burned in Lime Kiln when the Combination Boiler is not available to incinerate NCGs. The Lime Kiln was installed in 1964 and can produce up to 19,250 pounds of lime per hour. Air Permit 102-0001-X003 was issued on March 23, 2010, with PSD/BACT limits for NOx. Following permitting in 2010, PCA canceled the project and submitted an updated application in February 2012 proposing to retain the NOx PSD/BACT limit. During a significant Title V modification issued on July 24, 2018, pet coke firing ability was removed from the Lime Kiln and the Mill took a voluntary synthetic minor limit for SO_2.

Control Equipment:

The Lime Kiln is equipped with a venturi wet scrubber to minimize filterable PM and total reduced sulfur.

The Lime Kiln itself is considered a control device and is used to control HVLC and LVHC gases at the Mill.

Emission Limits and Proposed Periodic Monitoring:

The Lime Kiln 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 as referenced in ADEM Admin. Code 335-3-11-.06 (38).
- The requirements of ADEM Admin Code 335-3-4-.07(2)(c) for particulate matter.
- The requirements of ADEM Admin Code 335-3-4-.01 for opacity.
- The requirements of ADEM Admin Code 335-3-14-.04(9) for nitrogen oxides.
- The requirements of ADEM Admin Code 335-3-14-.04 for a synthetic minor limit for sulfur dioxide.

The Lime Kiln has the following limits:

Pollutant	Limit	Limit Type	Origin	Permit Date
PM	≤ 1.0 lb/ADTP	SIP	Rule 335-3-4-.07(2)(c)	N/A
SO_2	≤ 8.51 lb/hr	Synthetic Minor	Title V Significant Modification	July 24, 2018
NOx	≤ 3.50 lb/ton as CaO and 33.7 lb/hr	PSD/BACT	102-0001-X003	March 23, 2010
TRS	≤ 20 ppmv at 10% O_2	SIP	Rule 335-3-5-.04(6)	N/A
Opacity	≤ 20% with one six-minute period up to 40% in any one hour period	SIP	Rule 335-3-4-.01	N/A

HAPS (PM as surrogate)	≤ 0.064 grains/dscf at 10% O_2	MACT	40 CFR Part 63 Subpart MM	N/A

The Lime Kiln emission monitoring requirements are:

- A particulate emission test shall be performed and submitted at least once per year.
- A sulfur dioxide and nitrogen oxide emissions test shall be performed and submitted at least once every five years.
- For particulate matter periodic monitoring, if any three-hour average wet scrubber pressure drop or liquid flow rate when mud is being fed is less than the average value recorded during periodic test that showed compliance or a test approved by the Department, except during periods of startup or shutdown for pressure drop, shall be investigated and corrective action taken.
- The unit shall not have more than six or more three-hour average flow rate or pressure drops within any six-month period.
- For particulate matter, nitrogen oxides, and sulfur dioxide monitoring, if any three-hour block average lime mud flow rate greater than 110 percent of its 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.
- Opacity periodic monitoring will be satisfied through particulate emission periodic monitoring because the unit is controlled by a wet scrubber.
- The Mill shall monitor data recorded during periods of unavoidable CMS breakdowns, out of control periods repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in average computed.

Changes During the Fourth Title V Renewal:

- Removed references to 40 CFR Part 63 Subpart S as the Lime Kiln itself is not subject to Subpart S but is used as a control device pursuant to the subpart. The requirements of Subpart S are specified in other sections of the Title V (i.e. Pulping System Processes).
- Under Applicability, added a proviso for synthetic minor limit applicability for sulfur dioxide.
- Under Emission Standards, corrected the citation for the SO2 limit to Rule 335-3-14-.04.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Under Emission Monitoring, removed initial testing dates for 40 CFR Part 63 Subpart MM as these dates have passed and testing was completed. Ongoing testing is still required every 5 years.
- Under Recordkeeping and Reporting, added a proviso requiring the facility maintain information to estimate quantity of pollutant emitted over the emission limit, pursuant to 40 CFR Part 63 Subpart MM.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

Paper Machine Area

Paper Machine

Once the pulp has been refined and broken into individual papermaking fibers, the pulp is sent to stock preparation. The system removes any contaminants that may have passed through. The stock is then transferred to a headbox, which lays the stock onto the paper machine wire to form a uniform sheet. The water is removed from the stock to dry through vacuum assisted suction boxes. After the sheet reaches the beginning of the dryer section, it is removed from the wire by a vacuum assisted pickup roll. It passes through a press section and dryer cylinders to further remove any water. It is then compressed to specified thickness and surface smoothness. It is then wound on a large diameter roll, a reel drum. The reel drum is cut to customers specified width and finally rolled on the winder to be shipped to customer.

The No. 1 Paper Machine was installed in 1966 and modified in 2022. The No. 3 Paper Machine was installed in 1997 and modified in 2024. The No. 1 Paper Machine operating capacity is 50,000 pounds per hour and No. 3 Paper Machine operating capacity is 208,333 pounds per hour.

The No. 1 and No. 3 Paper Machines went through PSD and received Air Permit 102-0001-X033 on April 16, 2021, with PSD/BACT limits for VOC. During this project, the Mill modified the paper machines to produce unbleached Kraft paper using virgin unbleached Kraft pulp, recycled pulp, or a combination of virgin and recycled pulp. The No. 1 Paper Machine produces unbleached Kraft paperboard and/or corrugated medium. The No. 3 Paper Machine produces unbleached Kraft paper and paperboard. Air Permit 102-0001-X033 will be incorporated into the Title V during the fourth renewal.

Control Equipment:

The No. 1 and No. 3 Paper Machine have no add on control equipment installed. The No. 1 and No. 3 Paper Machine can only use mill supply water, non-direct contact condensates, clean condensates, well water, demineralized water, or white water as a water source for the paper machines.

Emission Limits and Emission Monitoring:

The No. 1 and No. 3 Paper Machine are subject to:

- The requirements of ADEM Admin. Code 335-3-14-.04 (9) for control of volatile organic compounds.

The No. 1 and No. 3 Paper Machine have the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
VOC	$\leq$ 1.26 lb/ADTFP & $\leq$ 393.7 TPY (Combined)	PSD/BACT	102-0001-X033	April 16, 2021

The No. 1 and No. 3 Paper Machine emission requirements are:

- The Mill must calculate the VOC emissions as demonstrated in Appendix C of the Permit.

Changes in the Fourth Title V Renewal:

- Incorporated Air Permit 102-0001-X033 into the Title V.
- Clarified the 393.7 tpy VOC limit is for the No. 1 and 3 Paper Machines combined.
- Added a monitoring proviso requiring VOC emissions be calculated pursuant to Appendix C of the Permit.

Recovery Systems

Multiple Effect Evaporator System

The Multiple Effect Evaporator System concentrates the weak black liquor that was collected from the Brownstock Washing System. The concentration of the liquor involves raising the solids content in the steam-heated multiple-effect evaporator system from approximately 15% to 50%. The evaporator system is an eight body, six effect system. The system is a closed system, which utilizes the heat transfer from one effect to another to help increase concentration of black liquor. The liquor flows counter currently to the steam, such that the highest temperature due to steam is in the highest solids content liquor. The steam feed enters the 1st effect evaporator and is pulled through the system using a vacuum effect, which is on the 6th effect. The No. 1 Multiple Effect Evaporator was installed in 1964 and modified in 1996. It has an operating capacity of 112,500 pounds of black liquor solids per hour.

Control Equipment:

LVHC gases from the Multiple Effect Evaporator System are collected in the LVHC closed-vent system and burned either in the Combination Boiler or the Lime Kiln.

Emission Limits and Proposed Periodic Monitoring:

The Multiple Effect Evaporator System is subject to:

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

The Multiple Effect Evaporator system has the following limits:

- The Multiple Effect Evaporator System is subject to 40 CFR Part 63 Subpart S (MACT I) for HAPs and subject to 40 CFR Part 60 Subpart BB (NSPS) for TRS. For this source, all gases that contain TRS are required to be incinerated per Subpart BB. All LVHC gases are also collected and incinerated as required by Subpart S. These gases are incinerated in the Combination Boiler or Lime Kiln.

The Multiple Effect Evaporator system has the following monitoring requirements:

- The evaporator system is subject to 40 CFR Part 63, Subpart S and the Mill must meet the requirements included in the “Pulping System Processes”, “Process Condensates”, and “Enclosures and Closed Vent Systems” sections.

Changes in the Fourth Title V Renewal:

- Added periodic monitoring for incineration requirements for total reduced sulfur gases. These requirements are met through the provisos of the "Pulping System Processes", "Process Condensates", and "Enclosures and Closed Vent Systems" sections.

No. 2 Recovery Furnace

The No. 2 Recovery Furnace burns organic compounds in the black liquor, such as sodium carbonate, sodium sulfide, and organic materials that had been removed from the wood chips. The black liquor solids are concentrated in the Multiple Effect Evaporator System and then sent to be burned in the No. 2 Recovery Furnace. The product of the No. 2 Recovery Furnace is an inorganic smelt of sodium carbonate and sodium sulfide. The No. 2 Recovery Furnace is also used to generate steam to be used in Mill processes. The No. 2 Recovery Furnace was installed in 1973 and is rated as 164 MMBtu/hr, on fossil fuels, and 124,000 pounds of black liquor solids per hour. The No. 2 Recovery Furnace permitted fuels are No. 2 fuel oil and natural gas.

Control Equipment:

The No. 2 Recovery Furnace has an electrostatic precipitator (ESP) to control filterable particulate matter emissions.

Emission Limits and Proposed Periodic Monitoring:

The No. 2 Recovery Furnace is subject to:

- The applicable requirements of New Source Performance Standards General Provisions and Subpart Db for nitrogen oxides when fossil fuels are fired.
- The applicable requirements of National Emissions Standards for Hazardous Air Pollutants General Provisions as provided for in Table 1 of Subpart MM and Subpart MM.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 such that the opacity limit is the same as, but the source is not subject to the New Source Performance Standards subpart BB for kraft recovery furnaces as referenced in ADEM Admin. Code 335-3-10-.02(2)(b).
- The applicable requirements of ADEM Admin. Code 335-3-5-.04 (3) for total reduced sulfur.

The No. 2 Recovery Furnace has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
HAPS (PM as surrogate)	$\leq$ 0.044 gr/dscf at 8% O_2	MACT	40 CFR Part 63 Subpart MM	N/A
PM	$\leq$ 4.0 lb/ton ADTP	SIP	Rule 335-3-4-.07(2)(a)	N/A
TRS	$\leq$ 20 ppm at 8% O_2	SIP	Rule 335-3-5-.04(3)	N/A
NOx	$\leq$ 10 % annual capacity factor for natural gas	NSPS	40 CFR Part 60 Subpart Db	N/A
Opacity	$\leq$ 35 percent (6-minute average)	MACT, NSPS	40 CFR Part 63 Subpart MM, 40	N/A

			CFR Part 60 Subpart BB	

The No. 2 Recovery Furnace has the following emission monitoring requirements:

- A particulate matter emission test shall be performed at least once per year.
- A continuous opacity monitoring system (COMS) shall be installed, calibrated, operated, and maintained in accordance with National Emissions Standards for Hazardous Air Pollutants.
- For particulate matter and opacity periodic monitoring when COMS is available, if the average of any ten consecutive six-minute opacity averages of either stack exceed 20 percent, the cause is to be investigated, and appropriate corrective action taken.
- For periodic monitoring for particulate matter, if any three-hour block average liquor firing rate is greater than 110 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the feed rate is to be lowered until compliance is successfully demonstrated at the higher rate.
- Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average computed under 40 CFR Part 63 Subpart MM.
- A particulate matter performance test shall be conducted every five years pursuant to 40 CFR Part 63 Subpart MM.
- The Mill must maintain proper operation of the electrostatic precipitator's automatic voltage control (AVC) system.
- A TRS continuous emissions monitoring system which meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 5 shall be installed, operated, calibrated, and maintained.

Changes During the Fourth Title V Renewal:

- On Informational Page, updated HAPs to note that PM is used as a surrogate.
- On the Informational Page, updated the operating capacity.
- On the Informational Page, corrected the opacity standard to Rule 335-3-10-.02 (28) to reference 40 CFR Part 60 Subpart BB in addition to 40 CFR Part 63 Subpart MM.
- Under Applicability, specified 40 CFR Part 60 Subpart Db applies when fossil fuels are fired instead of just natural gas.
- Under Applicability, citation to Rule 335-10-.02(28) to reference 40 CFR Part 60 Subpart BB for opacity.
- Under Emission Standards, corrected a reference to the fuel oil sulfur content proviso to reference 40 CFR Part 60 Subpart Db.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Added Method 16C as a compliance method option for TRS.

- Under Emission Monitoring, added a proviso to require all six-minute opacities to be recorded.
- Under Emission Monitoring, removed initial testing dates for 40 CFR Part 63 Subpart MM as these dates have passed and testing was completed. Ongoing testing is still required every 5 years.
- Under Recordkeeping and Reporting, corrected the referenced regulation to 40 CFR Part 60 Subpart Db for the proviso requiring calculation of annual fossil fuel capacity factor.
- Under Recordkeeping and Reporting, added a proviso requiring the facility maintain information to estimate quantity of pollutant emitted over the emission limit, pursuant to 40 CFR Part 63 Subpart MM.
- Under Recordkeeping and Reporting, specified due dates for 40 CFR Part 63 Subpart MM semiannual reports.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

No. 2 Smelt Dissolving Tank

The molten smelt filters through the char bed of the No. 2 Recovery Furnace to the furnace floor and flows by gravity to three spouts that continuously discharge smelt to the No. 2 Smelt Dissolving Tank. The smelt tank mixes the molten smelt with weak wash to form green liquor. The product, the weak wash containing smelt, is pump to the green liquor clarifier for further processing. The No. 2 Smelt Tank was installed in 1973 and has an operating capacity of 124,000 pounds of dry black liquor solids per hour.

Control Devices:

The No. 2 Smelt Tank is equipped with a venturi wet scrubber to control filterable particulate matter and total reduced sulfur emissions.

Emission Limits and Proposed Periodic Monitoring:

The No. 2 Smelt Dissolving Tank is subject to:

- The applicable requirements of National emission Standards for Hazardous Pollutants General Provisions as provided for in Table 1 of Subpart MM and Subpart MM.
- The applicable requirements of ADEM Admin. Code 335-3-4-.07(2)(b) for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The applicable requirements of ADEM Admin. Code 335-3-5-.04(7) for total reduced sulfur.

The No. 2 Smelt Dissolving Tank has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	$\leq$ 0.5 lb/ ADTP	SIP	Rule 335-3-4-.07(2)(b)	N/A
HAPs (PM as a surrogate)	$\leq$ 0.2 lb/ton of black liquor solids	MACT	40 CFR Part 63 Subpart MM	N/A
TRS	$\leq$ 0.033 lb/ton of black liquor solids	SIP	Rule 335-3-5-.04(7)	N/A

Opacity	≤ 20 percent with one six-minute period up to 40 percent in any one hour period	SIP	Rule 335-3-4-.01	N/A

The No. 2 Smelt Dissolving Tank has the following emission monitoring requirements:

- A particulate matter emission test shall be performed at least once per year.
- A continuous parameter monitoring system shall be properly installed, calibrated, maintained, and operated in such a way as to determine the scrubber liquid recirculating flow rate and scrubber differential pressure at least once every 15-minute periods under procedures in 40 CFR 63.8(c).
- For particulate matter periodic monitoring, if any three-hour block average liquor firing rate is greater than 110 percent of its value set by the required complying periodic test or complying test approved by the Department, the feed rate is to be lowered until compliance is demonstrated at the higher rate.
- For particulate matter periodic monitoring, if any three hour average wet scrubber pressure drop or liquid flow rate, while liquor is being fired is less than the average value recorded at the time of the most recent required periodic test that showed compliance or a test approved by the Department that showed compliance, with the exception of startup or shutdown, the cause is to be investigated and appropriate corrective action is to be initiated.
- The unit may not have six or more three-hour average flow rate or pressure drop deviation within six-month reporting period below minimum operating limit.
- Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any data average computed under 40 CFR Part 63 Subpart MM.
- A particulate matter performance test shall be conducted every five years pursuant to 40 CFR Part 63 Subpart MM.
- A total reduced sulfur emission test shall be performed every 5 years to certify compliance and set periodic monitoring parameters.
- For total reduced sulfur periodic monitoring, if the three hour-block average wet scrubber weak wash recirculation flow rate is less than 90 percent of its average value set by the required complying periodic test or a complying test approved by the Department, the cause is to be investigated, and appropriate corrective action is to be taken within 24 hours.

Changes During the Fourth Renewal:

- On the Informational Summary page, updated the operating capacity to 124,000 lb BLS/hr.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.

- Under Emission Monitoring, removed initial testing dates for 40 CFR Part 63 Subpart MM as these dates have passed and testing was completed. Ongoing testing is still required every 5 years.
- Under Recordkeeping and Reporting, added a proviso requiring the facility maintain information to estimate quantity of pollutant emitted over the emission limit, pursuant to 40 CFR Part 63 Subpart MM.
- Under Recordkeeping and Reporting, added a proviso specifying opacity monitoring is satisfied through particulate matter emission monitoring since the unit is controlled with a wet scrubber.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

Utilities

Combination Boiler

The Combination Boiler is a 294 MMBtu/hr that primarily burns wood residues or wet biomass to generate up to 250,000 lb/hr of steam. The wood residues and wet biomass consists of wood, OCC rejects, dewatered sludge, and cross tie fuel. The boiler was originally installed in 1964 and was modified in 1978. The Combination Boiler was an affected unit in the Mill's 1991 and 1993 expansion projects. As a result, Air Permit 102-0001-Z013 issued on April 1, 1992, established an emission limit for PM. On September 15, 1994, Air Permit 102-0001-Z013 was re-issued with limits on SO_2 and CO and to allow firing of sludge in the boiler. The Mill received a letter of non-applicability on April 27, 2023, for the addition of burning cross ties as fuel. Nos. 2-6 fuel oil can be used as standby fuel.

Control Equipment:

The Combination Boiler is equipped with a multiclone that is used to control filterable particulate matter emissions and a dual throat venturi wet scrubber that controls filterable particulate emissions and sulfur dioxide.

The Combination Boiler itself is considered a control device and is used to control HVLC and LVHC gases at the Mill.

Emission Limits and Proposed Periodic Monitoring:

The Combination Boiler is subject to:

- The applicable requirements of 40 CFR Part 61 Subpart A and Subpart E for mercury.
- The applicable requirements of National Emission Standards for Hazardous Air Pollutants for Major Sources Subpart DDDDD.
- The applicable requirements of ADEM Admin. Code 335-3-4-.08 for particulate matter.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The applicable requirements for Prevention of Significant Deterioration limitation for particulate matter, sulfur dioxide, and carbon monoxide.

The Combination Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	≤ 0.20 gr/dscf at 50% excess air	SIP	Rule 335-3-4-.08(2)(b)	N/A
PM	≤ 116.4 lb/hr	PSD	Permit	April 1, 1992
SO_2	≤ 226 lb/hr	PSD	Permit	September 15, 1994
CO	≤ 268 lb/hr	PSD	Permit	September 15, 1994
HCl	≤ 0.022 lb/MMBtu (≤ 0.025 lb/MMBtu of steam output) ≤ 0.020 lb/MMBtu (0.023 lb/MMBtu of steam output) (Effective October 6, 2025)	MACT	40 CFR 63 Subpart DDDDD	N/A
Mercury	≤ 3200 grams per 24-hour period	NESHAP	40 CFR 61 Subpart E0	N/A
Mercury	≤ 5.7E-06 lb/MMBtu (≤ 6.4E-06 lb/MMBtu of steam output) ≤ 5.4E-06 lb/MMBtu (6.2E-06 lb/MMBtu of steam output) (Effective October 6, 2025)	MACT	40 CFR 63 Subpart DDDDD	N/A
Opacity	≤ 20% with one six-minute period up to 40 percent in any one hour period	SIP	Rule 335-3-4-.01	N/A
HAPs (CO as surrogate)	≤ 900 ppm by volume on a dry basis corrected to 3% oxygen, 30-day rolling average	MACT	40 CFR 63 Subpart DDDDD	N/A
HAPs (PM as surrogate)	≤ 0.44 lb/MMBtu heat input (≤ 0.55 lb/MMBtu steam output)	MACT	40 CFR 63 Subpart DDDDD	N/A

The Combination Boiler has the following emission monitoring requirements:

- A particulate matter emission test shall be performed at least once per year.
- A continuous system for monitoring sulfur dioxide shall be installed, calibrated, maintained, and operated in accordance with the requirements of 40 CFR Part 60 Appendix B Specification 2.
- A continuous system for monitoring carbon monoxide shall be installed, calibrated, maintained, and operated in accordance with the requirements of 40 CFR Part 60 Appendix B Specification 4.
- For particulate matter 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 or Department approved periodic test, the steam production rate is to be lowered until compliance is successfully demonstrated at the higher rate.

- For particulate matter periodic monitoring, if any three-hour block average wet scrubber pressure drop or liquid flow rate is less than 90 percent of its respective lowest value set by the required complying periodic or Department approved test, the Mill shall investigate the cause and take corrective action within 24 hours.
- For sulfur dioxide periodic monitoring, block twelve-hour continuous emission monitoring system readings in pounds per hour are to be taken. If an emission limit is indicated corrective action is to be taken within twenty-hour hours.
- A hydrogen chloride performance test shall be performed annually within 13 months of the previous test. If performance test for at least two consecutive years show that hydrogen chloride emissions are at or below 75 percent of emission limits and there is no change in operation of boiler or air pollution control equipment that could increase emissions, performance test may be conducted every third year, within 37 months of previous.
- A mercury performance test shall be performed annually within 13 months of the previous test. If performance tests for at least two consecutive years show that mercury emissions are at or below 75 percent of emission limits and there is no change in operation of boiler or air pollution control equipment that could increase emissions, performance test may be conducted every third year, within 37 months of previous.
- For carbon monoxide periodic monitoring, rolling thirty-day CEMS readings in parts per million are to be taken, If an emission limit exceedance is indicated corrective action is to be taken within twenty-four hours.
- The facility must conduct a tune-up of the boiler every 5-years. The tune-up must be conducted no more than 61 months after the previous tune-up.
- Mercury re-testing is only required if changes are made in operation that would potentially increase emissions above the level determined by most recent sludge test.
- The facility shall maintain the 30-day rolling average operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the performance test.
- A scrubber flow and pressure drop monitor shall be installed operated and maintained pursuant to Table 4. The 30-day rolling average scrubber flow rate and pressure drop shall be maintained at or above the level measured during the most recent performance test.
- The facility must conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels for HCl and Hg according to §63.7530(b)(1)-(2).
- The facility must demonstrate continuous compliance with each applicable emission limit, work practice standard, and operating limit of 40 CFR 63 Subpart DDDDD according to §63.7540(a) and Table 8.

Changes During Fourth Title V Renewal:

- On Informational Page, added cross ties and dewatered sludge to permitted fuels.
- On Informational Page, added the updated 40 CFR Part 63 Subpart DDDDD HCl and Hg emission limits, effective October 6, 2025.
- Under Applicability, specified the boiler as an existing hybrid suspension grate unit.
- Under Emission Standards, added the updated 40 CFR Part 63 Subpart DDDDD HCl and Hg emission limits, effective October 6, 2025.
- Under Emission Standards, added a proviso for the 40 CFR Part 63 Subpart DDDDD requirement to 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 at all times.

- Under Emission Standards, added a proviso for the 40 CFR Part 63 Subpart DDDDD requirements for startup and shutdown.
- Under Compliance and Performance Test Methods and Procedures, added 40 CFR Part 63 Subpart DDDDD testing requirements.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Under Compliance and Performance Test Methods and Procedures, moved the tune-up requirement to the emission monitoring section.
- Under Compliance and Performance Test Methods and Procedures, moved the startup shutdown requirements to emission standards section.
- Under Emission Monitoring, removed initial testing dates for HCl and Hg as these dates have past and testing was completed. Ongoing testing is still required as specified.
- Under Emission Monitoring, added a proviso for tune-up requirement of 40 CFR Part 63 Subpart DDDDD.
- Under Emission Monitoring, added provisos for monitoring 30-day operating load, scrubber flow, and scrubber pressure drop as required by 40 CFR Part 63 Subpart DDDDD.
- Under Emission Monitoring, added a proviso for fuel analysis and establishing maximum fuel pollutant input levels for HCl and Hg as required by 40 CFR Part 63 Subpart DDDDD.
- Under Emission Monitoring, added a proviso for demonstrating continuous compliance with the applicable emission limits, work practice standards, and operating limits as required by 40 CFR Part 63 Subpart DDDDD.
- Under Recordkeeping and Reporting, clarified the mill must record all three-hour block averages for steaming rate, scrubber pressure drop, and scrubber flow rate.
- Under Recordkeeping and Reporting, added provisos to require recordkeeping of 30-day rolling average operating load, scrubber pressure drop, and scrubber flow rate as required by 40 CFR Part 63 Subpart DDDDD.
- Under Recordkeeping and Reporting, added provisos for performance testing notices of intent and reporting for tests completed under 40 CFR Part 63 Subpart DDDDD.
- Under Recordkeeping and Reporting, added provisos for recordkeeping and reporting requirements of 40 CFR Part 63 Subpart DDDDD.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.
- Removed five year testing requirements for CO since facility operates a CO CEMS.

No. 3 Power Boiler

The No. 3 Power Boiler is a natural gas fired boiler that was installed in 1991. The boiler is used for power generation and process heat. The boiler is rated at 343.4 MMBtu/hr and produces 250,000 lb/hr of steam. The boiler was originally installed as a temporary unit to be used for backup steam generation while repairs were made on the Combination Boiler. Air Permit 102-0001-X020 was issued on April 1, 1992, with PSD/BACT limits for PM and NOx. This permitting

action was revisited in 1993 and Air Permit 102-0001-X020 was re-issued on January 14, 1994, with additional PSD/BACT limits for SO_2 and CO as well as a synthetic minor limit for VOC.

Control Devices:
The No. 3 Power Boiler is equipped with low NO_x burners with flue gas recirculation to control NO_x emissions.

Emission Limits and Proposed Periodic Monitoring:
The No. 3 Power Boiler is subject to:

- The applicable requirements of New Source Performance Standards General Provisions and Subpart Db for nitrogen oxides.
- The applicable requirements of the Hazardous Air Pollutants for Major Sources Subpart DDDDD.
- The applicable requirements of ADEM Admin. Rule 335-3-4-.01 for opacity.
- The applicable requirements of ADEM Admin. Rule 335-3-14-.04 (9) for PSD/BACT for particulate matter, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The applicable requirements of ADEM Admin. Rule 335-3-14-.04 for synthetic minor limits for volatile organic compounds.

The No. 3 Power Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	$\leq$ 1.64 lb/hr	PSD	102-0001-X020	April 1, 1992
NOx	$\leq$ 0.05 lb/MM Btu and/or $\leq$ 17.2 lb/hr	PSD	102-0001-X020	April 1, 1992
SO_2	$\leq$ 0.2 lb/hr	PSD	102-0001-X020	January 14, 1994
CO	$\leq$ 0.09 lb/MMBtu	PSD	102-0001-X020	January 14, 1994
VOC	$\leq$ 3.43 lb/hr	Anti-PSD	102-0001-X020	January 14, 1994
Opacity	$\leq$ 20% with one six-minute period up to 40% in any one-hour period	SIP	Rule 335-3-4-.01	N/A

The No. 3 Power Boiler has the following emission monitoring requirements:

- A continuous monitoring system to record nitrogen oxides and oxygen shall be installed, calibrated, maintained, and operated in accordance with 40 CFR Part 60 Subpart Db. The CEMS shall be subject to quality control and quality assurance requirements of 40 CFR Chapter 1 Part 60 Appendix F.
- The NO_x CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
- The nitrogen oxide continuous emission monitoring system shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every

four calendar quarters. A cylinder gas audit may be performed in three of four calendar quarters but in no more than three quarters in succession.

- A carbon monoxide and volatile organic compound emission test shall be performed at least once during the current five-year permitting cycle.
- For carbon monoxide and volatile organic compound periodic monitoring, if any three-hour block average fuel firing rate is 110 percent of the average fuel firing rate set by the required complying periodic test or Department approved test. If any three-hour block average oxygen furnace percentage is less than seventy-five percent of the average oxygen percentage set by the required complying periodic test or approved test by Department, the oxygen is to be raised until compliance is successfully demonstrated at lower rate.
- The facility must conduct a tune-up of the boiler every 5-years. The tune-up must be conducted no more than 61 months after the previous tune-up.
- The facility must obtain natural gas vendor certification of sulfur content in fuel once per year.

Changes in Fourth Title V Renewal:

- On Informational Page, removed citations to SIP rules for PM and SO_2 since the boiler is subject to more stringent PSD/BACT limits for PM and SO_2.
- Under applicability, removed SIP provisos for PM and SO_2 since the boiler is subject to more stringent PSD/BACT limits for PM and SO_2.
- Under applicability, clarified the No. 3 Power Boiler is subject to PSD/BACT limits for NOx and CO rather than synthetic minor limits.
- Updated citations for NOx and CO emission limits to 335-3-14-.04 (9).
- Under Applicability, specified the boiler as a Gas 1 Boiler with continuous oxygen trim system.
- Under Emission Standards, removed citations to SIP rules for PM and SO_2 provisos since the boiler is subject to more stringent PSD/BACT limits for PM and SO_2.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Under Compliance and Performance Test Methods and Procedures, moved the NOx RATA and CGA proviso to the emission monitoring section.
- Under Compliance and Performance Test Methods and Procedures, moved the tune-up requirement to the emission monitoring section.
- Under Emission Monitoring, added a proviso to obtain natural gas vendor certifications for sulfur in the fuel once per year.
- Under Recordkeeping and Reporting, added a proviso to maintain natural gas vendor certifications for sulfur in the fuel for a period of five years.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

No. 4 Power Boiler

The No. 4 Power Boiler is a natural gas fired boiler. It is used for power generation and process heat. The No 4 Power Boiler is rated for 346.4 MMBtu/hr and can generate 250,000 lb/hr of steam. The No. 4 Power Boiler was installed in 1995. The No. 4 Power Boiler was originally permitted on March 28, 1995, with PSD/BACT limits for NOx and CO. In May 1995, the Mill applied for additional modifications resulting in Air Permit 102-0001-X025 being re-issued on September 18, 1995, with additional PSD/BACT limits for PM, VOC, and SO_2.

Control Devices:

The No. 4 Power Boiler is equipped with low NO_x burners with flue gas recirculation to control NO_x emissions.

Emission Limits and Proposed Periodic Monitoring:

The No. 4 Power Boiler is subject to:

- The applicable requirements of New Source Performance Standards General Provisions and Subpart Db for nitrogen oxides.
- The applicable requirements of the Hazardous Air Pollutants for Major Sources Subpart DDDDD.
- The applicable requirements of ADEM Admin. Rule 335-3-4-.01 for opacity.
- The applicable requirements of ADEM Admin. Rule 335-3-14-.04 (9) for PSD/BACT for particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and volatile organic compounds.

The No. 4 Power Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	$\leq$ 0.005 lb/MM Btu	PSD/BACT	102-0001-X025	September 18, 1995
NOx	$\leq$ 0.05 lb/MM Btu or 17.32 lb/hr	PSD/BACT	102-0001-X025	March 28, 1995
SO_2	$\leq$ 0.6 lb/MM ft^3 natural gas	PSD/BACT	102-0001-X025	September 18, 1995
CO	$\leq$ 0.09 lb/MM Btu	PSD/BACT	102-0001-X025	March 28, 1995
VOC	$\leq$ 0.01 lb/MM Btu	PSD/BACT	102-0001-X025	September 18, 1995
Opacity	$\leq$ 20% with one six-minute period up to 40% in any one-hour period	SIP	Rule 335-3-4-.01	N/A

The No. 4 Power Boiler has the following emission monitoring requirements:

- A continuous emission monitoring systems to record the nitrogen oxides shall be installed, calibrated, maintained, and operated in accordance with 40 CFR 60, Subpart Db, 60.48b(e). The continuous emission monitoring systems shall be subject to the quality control and quality assurance requirements of 40 CFR Part 60 Appendix B Specification 2 and Appendix F

- The NO_x CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
- The nitrogen oxide and carbon monoxide continuous emission monitoring systems shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every four calendar quarters. A cylinder gas audit may be performed in three of four calendar quarters but in no more than three quarters in succession.
- The CO and O_2 CEMS shall be operated and data recorded according to the Procedure 1 of Part 60 Appendix F.
- A volatile organic compound emission test shall be performed at least once during the current five year permitting cycle.
- For volatile organic compounds periodic monitoring, if any three-hour block average fuel firing rate is greater than 110 percent of the average fuel firing rate set by the required complying periodic test or a complying volatile organic compound emission test approved by the Department, the fuel firing rate is to be lowered until compliance is successfully demonstrated at the higher rate.
- Pursuant to §63.7500 (a) and Table 3, the facility must conduct a tune-up of the boiler every 5 years as specified in §63.7540 (12). Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up.
- The facility must obtain natural gas vendor certification of sulfur content in fuel once per year.

Changes in Fourth Title V Renewal:

- On Informational Page, removed citations to SIP rules for PM and SO_2 since the boiler is subject to more stringent PSD/BACT limits for PM and SO_2.
- On Informational Page, removed citations to 40 CFR Part 60 Subpart Db for NOx since the boiler is subject to more stringent PSD/BACT limits for NOx.
- Clarified the limits for particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and volatile organic compounds are considered PSD/BACT limits instead of synthetic minor.
- Under Applicability, specified the boiler as a Gas 1 Boiler with continuous oxygen trim system.
- Under Emission Standards, removed citations to SIP rules for PM and SO_2 since the boiler is subject to more stringent PSD/BACT limits for PM and SO_2.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Under Compliance and Performance Test Methods and Procedures, added the CO CEMS as a compliance method for CO.
- Under Compliance and Performance Test Methods and Procedures, moved the NOx RATA and CGA proviso to the emission monitoring section.
- Under Compliance and Performance Test Methods and Procedures, moved the tune-up requirement to the emission monitoring section.

- Under Emission Monitoring, removed "carbon monoxide" testing from the VOC fuel firing parametric monitoring proviso.
- Under Emission Monitoring, added a proviso to obtain natural gas vendor certifications for sulfur in the fuel once per year.
- Under Recordkeeping and Reporting, added CO to the requirement for submittal of quarterly CGA reports.
- Under Recordkeeping and Reporting, added a proviso to maintain natural gas vendor certifications for sulfur in the fuel for a period of five years.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

No. 5 Power Boiler

The No. 5 Power Boiler is a natural gas boiler is rated for 346.4 MMBtu/hr and can produce 250,000 lb/hr of steam. The No. 5 Power Boiler's purpose is power generation and process heat. The No. 5 Power Boiler was issued Air Permit 102-0001-X029 on May 10, 1996, with PSD/BACT limits for NOx and CO. The boiler was installed in 1997.

Control Devices:

The No. 5 Power Boiler is equipped with low NO_x burners with flue gas recirculation to control NO_x emissions.

Emission Limits and Proposed Periodic Monitoring:

The No. 5 Power Boiler is subject to:

- The applicable requirements of New Source Performance Standards General Provisions and Subpart Db for nitrogen oxides.
- The applicable requirements of the Hazardous Air Pollutants for Major Sources Subpart DDDDD.
- The applicable requirements of ADEM Admin. Rule 335-3-14-.04 (9) for PSD/BACT for nitrogen dioxide and carbon monoxide.
- The applicable requirements of ADEM Admin. Code 335-3-4-.01 for opacity.
- The applicable requirements of ADEM Admin. Code 335-3-4-.03 for particulate matter.

The No. 5 Power Boiler has the following limits:

Pollutant	Limit	Limit Type	Origin	Original Date
PM	≤ 0.12 lb/MMBtu	SIP	Rule 335-3-4-.03	N/A
NOx	≤ 0.05 lb/MMBtu or 17.32 lb/hr	PSD/BACT	102-0001-X029	May 10, 1996
CO	0.09 lb/MMBtu	PSD/BACT	102-0001-X029	May 10, 1996
Opacity	≤ 20% with one six-minute period up to 40% in any one-hour period	SIP	Rule 335-3-4-.01	N/A

The No. 5 Power Boiler has the following emission monitoring requirements:

- A continuous emission monitoring systems to record the nitrogen oxides shall be installed, calibrated, maintained, and operated in accordance with 40 CFR 60, Subpart Db, 60.48b(e). The continuous emission monitoring systems shall be subject to the quality control and quality assurance requirements of 40 CFR Part 60 Appendix B Specification 2 and Appendix F.
- The NO_x CEMS shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
- The nitrogen oxide continuous emission monitoring system shall be audited at least once per calendar quarter. A relative accuracy test audit shall be performed at least once every four calendar quarters. A cylinder gas audit may be performed in three of four calendar quarters but in no more than three quarters in succession.
- A continuous emission monitoring system for the measurement of carbon monoxide and oxygen shall be installed, operated, and maintained.
- The CO and O_2 CEMS shall be operated and data recorded according to the Procedure 1 of Part 60 Appendix F.
- The facility must conduct a tune-up of the boiler every 5-years. The tune-up must be conducted no more than 61 months after the previous tune-up.

Changes in Fourth Title V Renewal:

- On Informational Page, removed citations to 40 CFR Part 60 Subpart Db for NOx since the boiler is subject to more stringent PSD/BACT limits for NOx.
- Under Applicability, specified the boiler as a Gas 1 Boiler with continuous oxygen trim system.
- Under Compliance and Performance Test Methods and Procedures, citations to Rule 335-3-14-.02 or Rule 335-3-4-.01 have been corrected to reference the applicable test methods or regulations.
- Under Compliance and Performance Test Methods and Procedures, removed all references to alternative test methods.
- Under Compliance and Performance Test Methods and Procedures, moved the NOx RATA and CGA proviso to the emission monitoring section.
- Under Compliance and Performance Test Methods and Procedures, moved the tune-up requirement to the emission monitoring section.
- A number of citations to Rule 335-3-14-.02 have been corrected to the appropriate regulation.

MACT I Sources

Pulping System Processes

LVHC gases from the digesters, evaporators, turpentine recovery, and condensate collection systems and HVLC gases from the Brown Stock Washer system are collected and incinerated in the Combination Boiler or Lime Kiln. The gases must be conveyed in a closed system that meets the requirements of 40 CFR 63.450.

Changes in Fourth Title V Renewal:

- A number of citations were corrected to Rule 335-3-11-.06 (18) in order to reference 40 CFR Part 63 Subpart S.
- On the Informational Page, added a row to the table outlining the enclosures and closed-vent system must meet the requirements outlined in the "Enclosures and Closed-Vent Systems" provisos.

Kraft Pulping Condensate System

Process condensates from the digesters, turpentine recovery system, evaporators, HVLC collection system, and LVHC collection system that in total contain a HAP mass of 7.2 pounds per ton of ODP for mills that do not perform bleaching, must be collected and treated. The pulping condensate is pumped to the discharge beneath the surface of the Aerated Stabilization Basin for biological treatment of hazardous air pollutants. The system was installed in 2000 and has a process capacity of 250,000 pounds of Kraft pulping condensate pumped to the biological treatment system. The facility must collect 7.2 pounds of HAP per oven-dry ton of pulp (ODTP) and must treat 6.6 pounds of HAP per ODTP.

The Pulping Process Condensate System has the following monitoring requirements:

- A continuous monitoring system (CMS) as described in General Provisions 63.2 shall be installed, calibrated, certified, operated, and maintained. It shall also include a continuous recorder.
- A CMS shall be operated to measure the appropriate parameters determined according to specified in proviso 4 of the emission monitoring section to comply with the condensate applicability requirements.
- By using an open biological treatment system to comply with 40 CFR 63.446(e)(2), the operator shall perform daily monitoring procedures as specified in 3(a) or (b) of the emission monitoring section proviso 3.
- The facility must conduct quarterly compliance tests on the biological treatment system to demonstrate compliance with the collection and treatment limits.

Changes in Fourth Title V Renewal:

- A number of citations were corrected to Rule 335-3-11-.06 (18) in order to reference 40 CFR Part 63 Subpart S.

Enclosures and Closed-Vent Systems

The Enclosures and Closed-Vent Systems serves to enclose and transport LVHC and HVLC gases and process condensates to their corresponding control devices. The system is subject to the requirements found in 40 CFR 63.450.

The Enclosures and Closed-Vent System has the following monitoring requirements:

- Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the requirement through the following:
    - A visual inspection of the closure mechanism shall be performed at least once per calendar month, with at least 15 days in between to ensure opening is closed and sealed properly.

    - A visual inspection of ductwork, piping, enclosures, and connections shall be performed once per calendar month with at least 15 days in between inspection.
    - Perform a positive pressure test as specified in 40 CFR 63.457(d) annually.
    - Perform a negative pressure test as specified in 40 CFR 63.457(e) annually.
    - An inspection of valve or closure mechanism shall be performed once per calendar month with at least 15 days in between inspection to ensure valve is maintained in closed position and emission point gas stream is not diverted through bypass line.
    - If an inspection identifies visible defects in ductwork, piping, enclosures, or connection, or if an instrument reading of 500 parts per million by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, a first effort to repair shall be made as soon as practicable, but no later than five calendar days after problem is identified.
    - The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without process unit shutdown or if the owner/operator determines that the emissions resulting from immediate repair would be greater than emission likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.
- Each pulping process condensate closed collection system used to comply with 40 CFR 63.446(d) shall comply with the following requirements:
    - A visual inspection of the process condensate closed collection system shall be performed at least once per calendar month, with at least 15 days in between to ensure opening is closed and sealed properly.
    - Each condensate tank used in the closed collection system shall be operated with no detectable leaks as specified in 40 CFR 63.446(d)(2)(i) measured initially and annually by the procedures specified in 40 CFR 63.457(d).
    - If an inspection required by this section identifies visible defects in the closed collection system, or if an instrument reading of 500 parts per million or greater above background is measured, then corrective actions specified in 40 CFR 63.964(b) of subpart RR of this part shall be taken.

Changes in Fourth Title V Renewal:

- A number of citations were corrected to Rule 335-3-11-.06 (18) in order to reference 40 CFR Part 63 Subpart S.

RICE Units

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

- X031 – ClO_2 Plant Emergency Generator; 2012; 197 hp
- X032 – Administrative Building and Server Room Emergency Generator; 2017; 463 hp
- X308 – Lime Kiln Auxiliary Drive Engine; 2014; 66.8 hp
- X608 – Emergency Fire Pump Engine; 2006; 200 hp

X031, X032, and X608 are emergency engines. X308 is a non-emergency use engine. All engines are compression ignition engines driven by diesel fuel.

Based on year, size and purpose, the units are subject to the following regulations:

- All RICE units are subject to the applicable requirements of ADEM Admin. Code 335-3-10-.02 (87), "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" (40 CFR Part 60 Subpart IIII).
- All RICE units must meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII.
- All RICE units are subject to ADEM Admin. Code 335-3-4-.01 for opacity.

Changes During Fourth Title V Renewal:

- On the Informational Page, updated installation dates for X031, X032, X308
- On the Informational Page, removed a row from the table specifying the Emergency Fire Pump must be certified by the manufacturer to the emission standards listed as the actual limits are listed in the table. This is still listed under the Emission Standards proviso 1.
- Under Emission Standards, removed a proviso for the Lime Kiln Auxiliary Drive Engine requiring the engine be operated according to manufacturer's written instructions or procedures as this is listed in Compliance and Performance Test Methods and Procedures Proviso 1.
- Under Emission Standards, updated references to 40 CFR Part 89 to Part 1039 as Part 89 was replaced by EPA.
- Under Emission Standards, added a proviso stating the facility must maintain the engines to meet the emission standards over the life of the engine.
- Removed various references to 40 CFR Part 63 Subpart ZZZZ as the facility is in compliance with this subpart through compliance with 40 CFR Part 60 Subpart IIII as stated in Applicability proviso 3.

CAM

CAM applies to pollutant specific emission units that are subject to an emission limitation or standard where a control device is used to achieve compliance with an applicable emission limitation. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. This facility has units that are subject to CAM, as detailed below.

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

- The requirements of Part 64 shall not apply to emission limitations or standards proposed by EPA after November 15, 1990, pursuant to section 111 or 112 of the Clean Air Act (40 CFR 64.2(b)(1)(i)).
- The requirements of Part 64 shall not apply to Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by the Administrator under the Act that allows for trading emissions within a source or between sources.
- The requirements of Part 64 shall not apply to emission limitations or standards for backup utility power units that: are owned by a municipality, are exempt from all monitoring requirements in Part 75, are operated solely for providing electricity during peak periods or emergency situations, and for which average actual emission for the previous 3 years are less than 50 percent of the major source cutoff and are expected to remain so.

- The requirements of Part 64 shall not apply to emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method (40 CFR 64.2(b)(1)(vi)).

All units that may be applicable to CAM have been determined to be exempt from CAM under the exemptions listed above.

Sources Subject Only to the General Provisos

Description	Regulation
Woodyard Fugitives	General Provisos
Batch Digester Filling Fugitives	General Provisos
Black Liquor and Knot Fill Tank	General Provisos
Black Liquor Oxidation Tank	General Provisos
Brownstock High Density Pulp Storage Tanks (3)	General Provisos
Combination Liquor Tank	General Provisos
Gasoline Storage Tank	General Provisos
Green Liquor Clarifier	General Provisos
Green Liquor Storage Tank	General Provisos
Heavy Black Liquor Storage Tank	General Provisos
J3 Makeup Air Unit Heaters	General Provisos
Lime Mud Precoat Filter	General Provisos
Lime Mud Precoat Filter Vacuum Pump	General Provisos
Lime Mud Washer	General Provisos
Lime Slaker with Causticizers	General Provisos
No. 1 Recycle Plant	General Provisos
No. 2 Recycle Plant	General Provisos
No. 1 Soap Storage Tank	General Provisos
No. 2 Soap Storage Tank	General Provisos
No. 1 Weak Black Liquor Storage Tank	General Provisos
No. 2 Weak Black Liquor Storage Tank	General Provisos
Purchased Lime Silo	General Provisos
Reburned Lime Silo	General Provisos
Soap Skimmer Tank	General Provisos
Tall Oil Reactor	General Provisos
Wastewater Treatment System Fugitives	General Provisos
White Liquor Clarifier	General Provisos

Fugitive Dust Plan

A fugitive dust plan was submitted with the application on October 22, 2024, and will be incorporated into the Title V MSOP during the fourth renewal as Appendix A.

Recommendation

The renewal Major Source Operating Permit (102-0001) shall be issued with the requirements above pending resolution of any comments received during a 30-day public comment period and a 45-day EPA review.

Steven Bissey
Industrial Chemicals Section
Chemical Branch
Air Division

August 20, 2025
Date