

**Statement of Basis  
WestRock Stevenson  
705-0014**

WestRock Stevenson has applied for a renewal of its Major Source Operating Permit 705-0014. 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.

**Background:**

WestRock Stevenson owns and operates a sodium carbonate semi-chemical (SCSC) pulp and paper manufacturing facility (SIC 2631) located in Stevenson, AL. The Stevenson, AL site is located in Jackson County, which is classified as a Class I county.

The Mill utilizes the SCSC pulping process for use in paper manufacturing. The Mill has the capacity to produce 3,000 tons per day of corrugating medium which is used in the manufacture of corrugated boxes and is the inner flute between two outer liner boards in the corrugated box. Operations at the Mill include: wood storage and processing; SCSC pulping; a paper mill consisting of two paper machines; finishing; warehousing and shipping facilities; a wastewater treatment system; and a power plant that consists of two power boilers, two wood fired boilers, and a recovery boiler.

The facility is a major source with respect to Title V, PSD, and the MACT/NESHAP standards. The Mill is a major source operating facility for the following pollutants: Filterable PM, Filterable PM<sub>10</sub>, Filterable PM<sub>2.5</sub>, Condensable PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, CO<sub>2e</sub>, VOC, Total HAPs, Acetaldehyde, Hydrochloric Acid, and Methanol.

**Utilities:**

The Mill's utility area consists of a liquid recovery phase and a power and steam generation phase. The following units are the components of the Chemical Recovery System: Reductive-Oxidative Recovery Furnace, and Smelt Dissolving Tank. The following units are components of the power and steam generation system: No. 1 Power Boiler, No. 3 Power Boiler, No. 1 Wood Fired Boiler, No. 2 Wood Fired Boiler, and Recovery Furnace. The utilities provide support services, steam, and power for the facility.

**No. 1 Power Boiler:**

The No. 1 Power boiler is a 223 MMBtu/hr Gas 1 boiler that generates steam and is permitted to burn natural gas and No. 2 fuel oil. The boiler was originally installed in 1974 and modified in 2012. The No. 1 Power Boiler shares a stack with the No. 3 Power Boiler.

**Control Equipment:**

This unit has low-NO<sub>x</sub> burners to control the NO<sub>x</sub> emissions from this source.

**Emission Limits and Proposed Periodic Monitoring:**

The No. 1 Power Boiler is subject to the following requirements:

- Rule 335-3-4-0.3(1) for PM
- Rule 335-3-14-.04 PSD BACT limit for sulfur dioxide

- 40 CFR Part 63, Subpart DDDDD – Boiler MACT, as an existing source, Gas 1 boiler

The No. 1 Power Boiler has the following limits:

PM	≤ 0.13 lbs/MMBtu of heat input
SO <sub>2</sub>	≤ 0.2% fuel oil sulfur content
Opacity	≤ 20 % with one 6-minute period up to 40 % in any one-hour period

- The Mill shall perform annual PM emissions tests each year that fuel oil is fired for greater than 48 hours during any calendar year
- For PM periodic monitoring, the Mill has elected to monitor and record the three-hour block average steam production rate
- For sulfur dioxide periodic monitoring, the Mill has elected to obtain fuel oil certifications of the sulfur content in the fuel oil from every load received by the mill
- For opacity periodic monitoring, the Mill has elected to perform a visible observation each day that fuel oil is fired
- A PM emission test report is required once per year that fuel oil is fired for greater than 48 hours.
- A record of all three-hour block average rates shall be made
- The Boiler MACT requires a one-time energy assessment, annual tune-ups, and new startup and shutdown procedures. All of these requirements are found in Table 3 of the Subpart
- In order to maintain the classification of a Gas 1 boiler under the Boiler MACT, this unit is limited to firing liquid fuel for periodic testing of liquid fuel, maintenance, or operator training to a combined total of 48 hours during any calendar year. This limitation may be exceeded only during periods of gas curtailment or gas supply interruptions.

**No. 3 Power Boiler:**

The No. 3 Power boiler is a 270 MMBtu/hr boiler that generates steam and is permitted to burn natural gas and No. 2 fuel oil. The boiler was originally installed in 2013.

**Control Equipment:**

This unit has low-NOx burners and a flue gas recirculation (FGR) system to control the NOx emissions from this source.

**Emission Limits and Proposed Periodic Monitoring:**

The No. 3 Power Boiler is subject to the following requirements:

- 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, opacity, and nitrogen oxides
- Rule 335-3-14-.04 for carbon monoxide
- 40 CFR Part 63, Subpart DDDDD – Boiler MACT, as new source, Gas 1 boiler

The No. 3 Power Boiler has the following limits:

Filterable PM	Firing natural gas: PM: ≤0.50 lb/hr PM <sub>10</sub> : ≤ 2.00 lb/hr PM <sub>2.5</sub> : ≤2.00 lb/hr
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	Firing No. 2 fuel oil: PM: $\leq 3.71$ lb/hr PM <sub>10</sub> : $\leq 4.26$ lb/hr PM <sub>2.5</sub> : $\leq 2.87$ lb/hr
SO <sub>2</sub>	$\leq 0.16$ lb/hr while firing natural gas $\leq 52.65$ lb/hr while firing No. 2 fuel oil
NO <sub>x</sub>	$\leq 0.12$ lb/MMBtu (30-day rolling average) while firing natural gas $\leq 0.20$ lb/MMBtu (3-hour rolling average) while firing No. 2 fuel oil
Opacity	$\leq 20\%$ except for one six minute period per hour of $\leq 27\%$
CO	$\leq 11.99$ lb/hr while firing natural gas $\leq 11.36$ lb/hr while firing No. 2 fuel oil

- The Mill shall perform annual PM emissions tests each year that fuel oil is fired for greater than 48 hours
- The Mill has a NO<sub>x</sub> CEMs on this unit which measure these emissions in accordance with 40 CFR 60, Subpart Db, and the CEM's quality control assurance shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F
- For PM periodic monitoring, the Mill has elected to monitor and record the three-hour block average steam production rate
- For sulfur dioxide periodic monitoring, the Mill has elected to obtain fuel oil certifications of the sulfur content in the fuel oil from every load received by the mill
- For opacity periodic monitoring, the Mill has elected to perform a visible observation each day that fuel oil is fired
- A PM emission test report is required once per year that fuel oil is fired for greater than 48 hours during any calendar year
- A record of all three hour block average rates shall be made
- The Boiler MACT requires a one-time energy assessment, annual tune-ups, and new startup and shutdown procedures. All of these requirements are found in Table 3 of the Subpart
- In order to maintain the classification of a Gas 1 boiler under the Boiler MACT, this unit is limited to firing liquid fuel for periodic testing of liquid fuel, maintenance, or operator training to a combined total of 48 hours during any calendar year. This limitation may be exceeded only during periods of gas curtailment or gas supply interruptions
- The Mill is required to submit a NO<sub>x</sub> continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly

**No. 1 Wood Fired Boiler:**

The No. 1 Wood Fired Boiler is a 430 MMBtu/hr boiler that generates steam and is permitted to burn biomass (bark, wood, waste paper, secondary fiber processing rejects, and primary and secondary sludge from the mill's wastewater treatment plant), tire derived fuel, NCGs, natural gas, and No. 2 fuel oil with a 0.20% maximum sulfur content.

**Control Equipment:**

Combustion of fuels in the No. 1 Wood Fired Boiler results in the production of various off-gases and vapors, heat, and ash particulate of various sizes. To control emissions of particulate matter, the boiler is equipped with mechanical dust collectors, a wet fixed throat scrubber, and a polishing wet electrostatic precipitator.

**Emission Limits and Proposed Periodic Monitoring:**

The No. 1 Wood Fired Boiler is subject to the following requirements:

- 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, opacity, and nitrogen oxides
- 40 CFR Part 61 Subpart E for mercury
- 40 CFR Part 63, Subpart DDDDD – Boiler MACT, as an existing source, Hybrid Suspension Grate boiler as defined in 63.7575

The No. 1 Wood Fired Boiler has the following limits:

<b>Pollutant</b>	<b>Established Emission Limits</b>
PM	≤ 0.10 lbs/MMBtu heat input
SO <sub>2</sub>	The fuel oil sulfur content ≤ 0.20% by weight. ≤ 2,253,521 gal of fuel oil may be fired in any rolling 12-month period. < 40 tons/day of tire derived fuel may be fired
NO <sub>x</sub>	≤ 0.7 lbs/MMBtu heat input
Opacity	≤ 20 % except for one six-minute period per hour of ≤ 27%
Mercury	7.05 lbs/24-hour period
CO	≤ 0.6 lbs/MMBtu heat input
Filterable PM	0.44 lb/MMBtu (0.55 lb/MMBtu of steam output)
Carbon monoxide	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
Hydrogen Chloride	0.022 lb/MMBtu (0.025 lb/MMBtu of steam output)
Mercury	5.7E-06 lb/MMBtu (6.4E-06 lb/MMBtu of steam output)

- The Mill shall perform annual PM emissions tests
- The Mill shall perform NO<sub>x</sub> and CO emissions tests at least once every five years
- For PM, SO<sub>2</sub>, NO<sub>x</sub>, and CO periodic monitoring, the Mill has elected to monitor and record the three-hour block average steam production rates
- For PM periodic monitoring, The Mill has elected to monitor and record the three-hour block average wet scrubber liquid flow rates and three-hour block average WESP total power
- For CO periodic monitoring, The Mill has elected to monitor and record the three-hour block average furnace oxygen
- An oxygen analyzer system, as defined in 40 CFR 63.7575, shall be installed, operated, and maintained
- For SO<sub>2</sub> periodic monitoring, fuel receipts shall be obtained
- The natural gas and fuel oil heat inputs in MMBtus per calendar year shall be monitored
- A continuous monitoring system for measuring the tons/day of tire derived fuel fed to the boiler shall be installed, calibrated, maintained, and operated
- Mercury re-testing is only required if changes are made in the operation that would potentially increase emissions above the level determined by the most recent sludge test
- A PM emission test report is required once per year
- A NO<sub>x</sub> and CO emission test report is required at least once per five years
- A record of all three hour block average rates shall be made
- All fuel oil receipts from the fuel oil supplier shall certify sulfur content and shall be obtained and maintained for at least five years

- Reports shall be submitted to the Department annually certifying the only very low sulfur oil was combusted in the boiler during the reporting period
- Records of fuel oil usage in gallons per rolling 12-month period shall be made and maintained on file, available for inspection for a period of at least five years
- Records of the amount of natural gas and fuel oil 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

**No. 2 Wood Fired Boiler:**

The No. 2 Wood Fired Boiler is a 620 MMBtu/hr boiler that has the capability to generate 360,000 lb/hr steam and is permitted to burn biomass (bark, wood, waste paper, secondary fiber processing rejects, and primary and secondary sludge from the mill’s wastewater treatment plant), tire derived fuel, NCGs, natural gas, and No. 2 fuel oil.

**Control Equipment:**

Combustion of fuels in the No. 2 Wood Fired Boiler results in the production of various off-gases and vapors, heat, and ash particulate of various sizes. To control emissions of particulate matter, the boiler is equipped with a multicyclone and a dry electrostatic precipitator.

**Emission Limits and Proposed Periodic Monitoring:**

The No. 2 Wood Fired Boiler is subject to the following requirements:

- 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, and nitrogen oxides
- Rule 335-3-14-.04 for carbon monoxide, volatile organic compounds, sulfuric acid mist, and opacity
- 40 CFR Part 61 Subpart E for mercury
- 40 CFR Part 63, Subpart DDDDD – Boiler MACT, as an existing source, Hybrid Suspension Grate boiler as defined in 63.7575

The No. 2 Wood Fired Boiler has the following limits:

<b>Pollutant</b>	<b>Established Emission Limits</b>
PM	≤ 0.03 lbs/MMBtu and/or ≤ 18.6 lbs/hr
SO <sub>2</sub>	<p>≤ 93.0 lbs/hr</p> <p>Sulfur Dioxide emissions shall not exceed the emission limit in parts per million on a rolling 3-hour average as measured by a continuous emission monitor as calculated by the following equation:</p> $E_{ppmdry} = 1/Q_s * 9,315,485$ <p>Where:</p> <p style="padding-left: 40px;"><math>Q_s</math> Stack Gas Flow Rate (DSCF/Min) from Department Approved Stack Test</p> <p style="padding-left: 40px;"><math>E_{ppmdryt}</math> Emission Rate (ppm)</p> <p>Note: This limit may only be re-established with Departmental approval</p>
NO <sub>x</sub>	≤ 0.25 lbs/MMBtu and/or ≤ 155.0 lbs/hr. Pursuant to Code of Federal Regulations. Section 60.44b(c), the combined annual capacity factor for natural gas and fuel oil shall be 10% or less,

	where the annual capacity factor is defined as the ratio between the actual heat input to the unit from natural gas and fuel oil during a calendar year and the potential heat input to the unit had it been operated 8,760 hours at the maximum steady state design heat input
Opacity	≤ 15 %
Hg	≤7.05 lbs/24-hour period
CO	≤ 0.40 lbs/MMBtu and/or ≤ 248.0 lbs/hr
VOC	≤ 0.03 lbs/MMBtu and/or ≤ 18.6 lbs/hr
SAM	≤ 0.022 lbs/MMBtu and/or ≤ 13.6 lbs/hr
Filterable PM	0.44 lb/MMBtu (0.55 lb/MMBtu of steam output)
CO	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
HCl	0.022 lb/MMBtu (0.025 lb/MMBtu of steam output)
Hg	5.7E-06 lb/MMBtu (6.4E-06 lb/MMBtu of steam output)

- The Mill shall perform annual PM emissions tests
- The Mill shall perform VOC, NOx, SAM, and CO emissions tests at least once every five years
- For PM, SAM, VOC, NOx, and CO periodic monitoring, The Mill has elected to monitor and record the three-hour block average steam production rates
- For PM and opacity periodic monitoring, if the average of any ten consecutive six-minute opacity averages exceeds 10%, the cause is to be investigated and appropriate actions are to be taken
- For CO and VOC periodic monitoring, The Mill has elected to monitor and record the three-hour block average furnace oxygen
- The quantity and heat input of fossil fuels fired shall be monitored
- The Mill shall also install, operate, calibrate, and maintain an Opacity COMs on this unit which measures these emissions in accordance with 40 CFR 60, appendix B, Performance Specification 1
- The Mill shall also install, operate, calibrate, and maintain a SO<sub>2</sub> CEM on this unit which measures these emissions in accordance with 40 CFR 60, appendix B, Performance Specification 2 and this CEM quality control assurance for the SO<sub>2</sub> CEMs shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the SO<sub>2</sub> emission limit shall be determined by Reference Method 6 in Appendix A of 40 CFR 60 or by a continuous emissions monitor.
- An oxygen analyzer system, as defined in 40 CFR 63.7575, shall be installed, operated, and maintained
- Mercury re-testing is only required if changes are made in the operation that would potentially increase emissions above the level determined by the most recent sludge test
- A PM emission test report is required once per year
- A VOC, NOx, SAM, and CO emission test report is required at least once per five years
- A record of all three-hour block average rates shall be made
- The number of gallons of No. 2 fuel oil fired on a 12-month rolling basis shall be obtained and maintained for at least five years
- Six-minute average opacities will be continuously recorded
- Records of all three-hour rolling average SO<sub>2</sub> emissions shall be recorded and maintained on file for at least five years

- Records of the amount of natural gas and fuel oil 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
- The Mill is required to submit a SO<sub>2</sub> continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly

### **Pulp Mill:**

The pulp mill converts wood chips from the wood yard into papermaking fiber via the Sodium Carbonate Semi-chemical (SCSC) pulping process using sodium carbonate, steam, and mechanical refining to produce pulp. Cooking liquor for the pulping process is received from the recovery system. The spent cooking chemicals from the pulping process are washed out of the pulp via a washing process and sent to the recovery system for recycling back into the pulping process. The pulp mill operation at the Stevenson Mill is comprised of several areas. The major processes include the No.1 and No. 2 SCSC digesters, SCSC Evaporator System, and No. 1 and No. 2 SCSC Brown Stock Washers. The Stevenson mill has three secondary fiber systems that utilize both pre-and post-consumer wastes.

### **Digesters:**

The Mill's continuous digester system consists of two SCSC vertical digesters, supporting chip feeders, and blow systems. The peak production rate of SCSC pulp is 2,000 ODTP/day.

### **Control Equipment:**

The digester system vent gases from the chip pre-steamers and the digester's blow and relief system are collected and oxidized in the Mill's wood fired boilers. The digesters and blow tanks form low volume high concentration gases (LVHC) which are also required to be collected and treated by 40 CFR Part 63 Subpart S. The Mill has elected to control these emissions by routing these gases to the wood fired boilers for incineration.

### **Emission Limits and Proposed Periodic Monitoring:**

The SCSC digesters are subject to 40 CFR Part 63 Subpart S (MACT I). All gases discharged from SCSC Digesters that contain total reduced sulfur and HAPs gases are to be collected and incinerated as required by Subpart S. Subpart S also requires annual testing and monthly inspections of the HVLC and LVHC NCG system. For TRS periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

### **No. 2 Brown Stock Washing System:**

The No. 2 Brown Stock Washer System is a closed vent system with no process vents. Filtrate tank gases will be collected and oxidized in the Mill's wood fired boilers. Thus, methanol emissions from these tanks are estimated to be minimal.

Pulp is pumped from the No. 2 digester system blow tank to the brown stock washer for removal of spent cooking liquors. Brown stock washers are filters that displace the spent cooking liquor with water. Filtrate from the brown stock washers is sent to the evaporator system to begin recovery of pulping chemicals. Washed pulp, the product from the brown stock washers, then goes to refiners.

### **Control Equipment:**

40 CFR Part 63 Subpart S requires that these gases be controlled. These gases are routed to wood residue boilers for incineration, which is one of the listed control options in 40 CFR Part 63 Subpart S.

**Emission Limits and Proposed Periodic Monitoring:**

The brown stock washer system is subject to 40 CFR Part 63 Subpart S (MACT I). All HVLC gases discharged from the No. 2 Brown Stock Washer System are required to be incinerated in the wood residue boiler as required by Subpart S. Subpart S also requires annual testing and monthly inspections of the HVLC NCG system. For TRS, periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

**Multiple-Effect SCSC Evaporator System:**

Weak black liquor from the brown stock washers is sent to the evaporator system for concentrating prior to being burned in the chemical recovery system. This is accomplished using six evaporator effects, a concentrator, and a surface condenser. Modifications to the existing evaporator system occurred in 2015 as part of the conversion to the sodium carbonate cooking process. The evaporator system has the capacity to handle approximately 1,700,000 pounds of black liquor solids per day and 70,850 pounds per hour.

Heavy black liquor from the concentrator is stored in liquor storage tank prior to being sent to the chemical recovery boiler. Black liquor can also be diverted from the second evaporator effect to the load-out tank and concentrator product tank for storage prior to further processing.

Dirty steam from the evaporator effects is condensed in the surface condenser and then collected in the hot-well. Condensate from the hot-well is then sent to the wastewater treatment system. Clean condensate from the concentrator and the first effect evaporator is collected in the steam condensate flash tank and then sent to clean condensate storage for use as boiler feedwater. Evaporator system vent gases are collected and oxidized in the Mill's wood fired boilers.

**Control Equipment:**

40 CFR Part 63 Subpart S requires that these gases be controlled. These gases are then routed to wood residue boilers for incineration, which is one of the listed control options in 40 CFR Part 63 Subpart S.

**Emission Limits and Proposed Periodic Monitoring:**

The SCSC Evaporators are subject to 40 CFR Part 63 Subpart S (MACT I). All gases discharged from the Multiple-Effect Evaporator are required to be incinerated in the wood residue boilers. All HVLC and LVHC gases are to be collected and incinerated as required by Subpart S. Subpart S also requires the annual testing and monthly inspections of the HVLC and LVHC NCG system. For TRS, periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

**Paper Machine Area**

The paper machines convert the dilute slurry of fiber into paper. The machines accomplish this task by physical and thermal means. Machine operations employ chemical additives at different points in the process to impart desirable characteristics to the finished product.



### **Paper machines:**

Once pulp from the pulp mill has been refined through the addition of various compounds to reach the desired physical properties, it is pumped to a centrifugal cleaner system. This system cleans and removes other contaminants, then the cleaned stock is transferred to a collection tank where it is transferred through a pressure screen to the head-box of the paper machine. The head-box controls the manner in which the stock passes onto the paper machine wire to form a uniform paper mat. The water removed from the stock flowing down the wire drains into a collecting silo for re-use. After the paper web is removed from the wire it passes through two press sections, then to the drying section of the paper machine which is heated by steam from the plant. After the dryer section, the sheet passes through the calendars which compress the paper to obtain the specified thickness and surface smoothness and is then wound on a reel drum.

### **Control Equipment:**

VOC emissions are controlled by the work practice of using only Mill water, non-direct contact condensates, well water, demineralized water, or paper machine white water as sources of process water supply for the paper machine.

### **Emission Limits and Proposed Periodic Monitoring:**

Since the paper machines have no specific limits, no periodic monitoring is necessary.

### **Chemical Recovery System**

#### **Recovery Furnace, Smelt Tank, & Chemical Conversion System:**

The chemical recovery system includes a reductive-oxidative recovery furnace and smelt dissolving tank. The recovery furnace burns spent concentrated black liquor to recover inorganic chemicals and to recover the heat value of the black liquor to generate process steam. The recovered inorganic material (smelt) consists primarily of sodium compounds (including sodium carbonate, sodium bicarbonate, and sodium hydroxide). Low sulfur No. 2 fuel oil and natural gas are used as supplemental fuels.

The recovery furnace is equipped with an electrostatic precipitator (ESP). The ESP removes particulate matter from the flue gas stream which reduced the dead load chemicals in the final regenerated SCSC cooking chemical.

The smelt dissolving tank continuously removes smelt from the bottom of the recovery furnace and is mixed with water to produce SCSC raw cooking liquor. The raw cooking liquor is clarified and sent to the chemical conversion system.

### **Control Equipment:**

The Chemical Recovery System is equipped with a dry electrostatic precipitator (ESP) for particulate matter control followed by a Spray Tower Wet Scrubber. The black liquor solids firing rate and dry ESP total power are monitored in order to ensure that the dry ESP is operating properly. When the Mill formerly operated with the NSSC process, the chemical recovery operations generated high levels of SO<sub>2</sub> which were controlled by the Spray Tower Wet Scrubber with the addition of sodium carbonate to the recirculated scrubber liquid. With the current firing of sodium carbonate-based black liquor in the Recovery Furnace, essentially no SO<sub>2</sub> is generated. Currently, the recirculated scrubber water flows through the scrubber quench zone to cool the flue gas, which reduces the flue gas volumetric flow, and provides limited particulate matter (PM) control. A continuous Emissions Monitoring System (CEMS) measures nitrogen oxide (NO<sub>x</sub>) and carbon monoxide (CO) emissions from the Chemical Recovery

System. CO emissions are monitored as a surrogate for organic HAPS. A reading of the CEMS greater than the value established during the initial performance test required by 40 CFR 63 Subpart MM, that demonstrated compliance with the organic HAPS standard would be defined as a deviation.

**Emission Limits and Proposed Periodic Monitoring:**

This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02(2)(b) New Source Performance Standards Subpart Db for nitrogen oxide emissions when No. 2 Fuel Oil or natural gas is fired and 40 CFR 60 Subpart A, General Provisions, and this source is subject to PSD/BACT limits for sulfur dioxide, PM, VOC, SAM, TRS, and NOx. Also, this unit is subject to Rule 335-3-4-0.1 for opacity. This unit is subject to 40 CFR Part 63 Subpart MM for HAPS.

The chemical recovery system has the following limits:

<b>Pollutant</b>	<b>Established Emission Limits</b>
PM	≤ 0.036 grains/DSCF @ 8% O <sub>2</sub> and ≤ 43.8 lbs/hr
SO <sub>2</sub>	≤ 120 ppm at 8% O <sub>2</sub> and ≤ 170.0 lbs/hr. The fuel oil sulfur content ≤ 0.20%
NO <sub>x</sub>	≤ 120 ppm at 8% O <sub>2</sub> (30-day rolling avg) and ≤ 72.92 lbs/hr. < 0.10 lb/MMBtu (30-day rolling avg) when firing only No. 2 fuel oil and/or natural gas ≤ 0.20 lb/MMBtu (30-day rolling avg) when firing No. 2 fuel oil and/or natural gas in combination with black liquor solids
CO	≤ 200.0 ppm at 8% O <sub>2</sub> (30-day rolling avg) and ≤ 87.50 lbs/hr
VOC	≤ 50 ppm at 8% O <sub>2</sub> and ≤ 8.87 lbs/hr
TRS	≤ 25 ppm at 8% O <sub>2</sub> and ≤ 18.8 lbs/hr
SAM	≤ 5 ppm at 8% O <sub>2</sub> and ≤ 4.0 lbs/hr
Opacity	≤ 20% with one 6-minute period up to 27% in any one-hour period
HAP	The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere shall be ≤ 1.49 kg/Mg (2.97 lb/ton) of BLS fired; or shall be reduced by at least 90% prior to discharge of the gases to the atmosphere. The alternative monitoring limit is ≤ 600.0 ppm at 8% O <sub>2</sub> (3-hour rolling avg).

- The Mill shall perform annual PM emissions tests
- The Mill shall perform SO<sub>2</sub>, TRS, VOC and SAM emissions tests at least once every five years
- For PM, SAM, VOC, and CO periodic monitoring, The Mill has elected to monitor and record the three-hour block average black liquor solids firing rates
- For PM periodic monitoring, The Mill has elected to monitor and record the three-hour block average ESP total power
- The Mill shall also install, operate, calibrate, and maintain a NO<sub>x</sub> CEM on this unit, and this CEM quality control assurance for the NO<sub>x</sub> CEMs shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the NO<sub>x</sub> parts per million emission limit shall be determined by the continuous emission monitor. Compliance with the NO<sub>x</sub> pounds per hour emission limit shall be determined in accordance with 40 CFR Part 60 Appendix A Method 7E.
- For CO, VOC, and gaseous HAP periodic monitoring when firing black liquor, a continuous monitoring system to record carbon monoxide emission rates in parts per million at 8 percent oxygen shall be installed, calibrated, maintained, and operated. If any three-hour rolling average carbon monoxide emission rate is greater than the permit limit, corrective actions to reduce the

carbon monoxide emission rate shall be taken within 24 hours. Compliance with the CO limit shall be determined by Reference Method 10 in Appendix A of 40 CFR Part 60 or by the continuous emission monitor.

- A PM emission test report is required once per calendar year
- A TRS, SO<sub>2</sub>, VOC, and SAM emission test report is required at least once per five years
- A record of all three-hour block average rates shall be made
- The Mill is required to submit a NO<sub>x</sub> continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly
- The Mill shall comply with the recordkeeping requirements of 40 CFR 63.10 of Subpart A as shown in Table 1 of Subpart MM and the requirements specified in 40 CFR 63.866 and 63.867

**RICE UNITS:**

The Mill operates two stationary emergency Reciprocating Internal Combustion Engines (RICE) units that provide fire suppression water to different areas of the Mill. These units are identified and described by the following:

Unit #	Year	Description	Capacity	Fuel	Emergency?
MT1020	2006	Emergency Fire Pump Engine	292.34	ULSD	Yes
MT1030	2003	Emergency Fire Pump Engine	292.34	ULSD	Yes

These units are all subject to the applicable requirements of ADEM Admin. Code R. 335-3-11-.06(103), “National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Hazardous Air Pollutant (HAP) Emissions from Stationary Reciprocating Internal Combustion Engines” (40 CFR Part 63 Subpart ZZZZ), which requires them to adhere to the following standards:

Unit #	Pollutant	Emission Limit
MT1020, MT1030	Opacity	< 20% as determined by six-minute average, with one six-minute period up to 40% in any one-hour period
MT1020, MT1030	HAPs	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
MT1020, MT1030	HAPs	Per 40 CFR 63.6640(f)(1) maintenance checks and readiness testing is limited to 100 hours per year and non-emergency use is limited to 50 hours per year, which count towards the 100 hour per year limit provided for maintenance and testing. There is no time limit on usage in emergency situations.

**CAM:**

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

CAM rule: Chemical Recovery System. The other units fall under one of the several exemptions as defined by 40 CFR 64.2(b).

The following are main 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 for which a Part 70 or 71 permit specifies a continuous compliance determination method (40 CFR 64.2(b)(1)(vi))

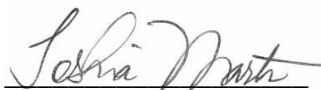
The first exemption applies to emission limitations for air pollutants from NSPS or NESHAP proposed after November 15, 1990. The Mill operates several emission units subject to 40 CFR Part 63 – Subpart S, MM, and DDDDD. The following are the units subject to these standards:

- Recovery Furnace (HAP): Subject to 40 CFR Part 63 – Subpart MM
- No. 1 & 2 SCSC Digester System (HAP): Subject to 40 CFR Part 63 – Subpart S
- No. 2 Brown Stock Waster (HAP): Subject to 40 CFR Part 63 – Subpart S
- Multiple Effect SCSC Evaporator (HAP): Subject to 40 CFR Part 63 – Subpart S
- No. 1 & 2 Wood Fired Boilers (HAP): Subject to 40 CFR Part 63 – Subpart DDDDD

As a result, these emission units must comply with the monitoring requirements prescribed in the applicable standard rather than the requirements of 40 CFR Part 64. The second exemption applies to emission limitations for which ADEM has already prescribed continuous monitoring requirements in the Mill's existing Title V Operating Permit to demonstrate compliance.

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

- Chemical Recovery System (PM) – continuous monitoring of black liquor solids firing rate and ESP total inlet power



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Date