



SC DEPARTMENT *of* **ENVIRONMENTAL SERVICES**

Bureau of Air Quality Synthetic Minor Construction Permit

**International Paper - Georgetown Mill
700 South Kaminski Street
Georgetown, South Carolina 29440
Georgetown County**

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5), 48-1-100(A), and 48-1-110(a), the 1976 Code of Laws of South Carolina, as amended, and South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards, the Bureau of Air Quality authorizes the construction of this facility and the equipment specified herein in accordance with the plans, specifications, and other information submitted in the construction permit application received on October 11, 2021, as amended. All official correspondence, plans, permit applications, and written statements are an integral part of the permit. Any false information or misrepresentation in the application for a construction permit may be grounds for permit revocation.

The construction and subsequent operation of this facility is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

Permit Number: CP-50000040 v1.0
Agency Air Number: 1140-0002

Issue Date: December 31, 2024



**Steve McCaslin, P. E., Director
Air Permitting Division
Bureau of Air Quality**

RECORD OF REVISIONS	
Date	Description of Changes

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A. PROJECT DESCRIPTION, EQUIPMENT, AND CONTROL DEVICE(S)

Under Section 169A of the Clean Air Act, the South Carolina Implementation Plan (SIP) is required to contain measures necessary to make reasonable progress toward meeting the national goal for visibility protection for Federal Class I areas. This construction permit documents the limits that will be promulgated into 40 CFR 52 – Approval and Promulgation of Implementation Plans, Subpart PP – South Carolina.

The applicable limits are:

- No. 1 Recovery Furnace (TV EU ID 01, equipment ID RB01):
 - SO₂ less than 330.0 tons per year (12-month rolling sum)
- No. 2 Recovery Furnace (TV EU ID 01, equipment ID RB02):
 - SO₂ less than 1,132.0 tons per year (12-month rolling sum)
 - SO₂ less than 130 parts per million @ 8% O₂, dry basis (annual average)
- Nos. 1 and 2 Power Boilers (TV EU ID 01, equipment IDs PB01 and PB02):
 - SO₂ less than or equal to 340 ng/J heat input (0.80 lb/million Btu) derived from liquid fossil fuel or liquid fossil fuel and wood residue (3 hour rolling average)
 - SO₂ less than or equal to 520 ng/J heat input (1.2 lb/million Btu) derived from solid fossil fuel or solid fossil fuel and wood residue (3 hour rolling average)
 - 2.3 lb/million Btu heat input (3 hour rolling average)

A.1 EQUIPMENT

Equipment ID	Equipment Description	Control Device ID	Emission Point ID
RB01	No. 1 Recovery Furnace (DCE), 592,320 TBLS/yr	RB1ESP	RB1EP
RB02	No. 2 Recovery Furnace (DCE), 745,506 TBLS/yr	RB2ESP, RB2 Scrubber	RB2EP
PB01	No. 1 Power Boiler, 592 million Btu/hr	PB1Cyclone PB1ESP	PB1EP
PB02	No. 2 Power Boiler, 592 million Btu/hr	PB2Cyclone PB2ESP	PB2EP

A.2 CONTROL DEVICES

Control Device ID	Control Device Description	Pollutant(s) Controlled	Emission Point ID
RB1ESP	No. 1 Recovery Furnace Electrostatic Precipitator (ESP)	PM, PM ₁₀ , PM _{2.5} , HAP Metals	RB1EP
RB2ESP	No. 2 Recovery Furnace Electrostatic Precipitator (ESP)	PM, PM ₁₀ , PM _{2.5} , HAP Metals	RB2EP
RB2 Scrubber	No. 2 Recovery Wet Scrubber	PM, PM ₁₀ , PM _{2.5} , SO ₂	RB2EP

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A.2 CONTROL DEVICES			
Control Device ID	Control Device Description	Pollutant(s) Controlled	Emission Point ID
PB1Cyclone	No. 1 Power Boiler Cyclone	PM, PM ₁₀ , PM _{2.5} , HAP Metals	PB1EP
PB1ESP	No. 1 Power Boiler Electrostatic Precipitator (ESP)	PM, PM ₁₀ , PM _{2.5} , HAP Metals	PB1EP
PB2Cyclone	No. 2 Power Boiler Cyclone	PM, PM ₁₀ , PM _{2.5} , HAP Metals	PB2EP
PB2ESP	No. 2 Power Boiler Electrostatic Precipitator (ESP)	PM, PM ₁₀ , PM _{2.5} , HAP Metals	PB2EP

B. LIMITATIONS, MONITORING, AND REPORTING	
Condition Number	Conditions
B.1	<p>Emission Unit ID: 01 Equipment ID: RB01</p> <p>(S.C. Regulation 61-62.1, Section II(E)) The facility has requested a federally enforceable emission limitation to limit its potential to emit to less than 330.0 tons per year for sulfur dioxide (SO₂) emissions from the No. 1 Recovery Furnace (RB01).</p> <p>The owner/operator shall maintain black liquor solids (BLS) throughput, fuel oil usage, fuel oil sulfur content, ultra-low sulfur diesel (ULSD) usage, natural gas usage, propane usage, and any other records necessary to determine SO₂ emissions from the No. 1 Recovery Furnace (RB01). SO₂ emissions shall be calculated on a monthly basis, and a twelve-month rolling sum shall be calculated for total SO₂ emissions. Emissions from startups, shutdowns, and malfunctions are required to be quantified and included in the calculations. The twelve-month rolling sum shall be less than 330.0 tons of SO₂. The monthly and the twelve-month rolling sums for SO₂ emissions shall be calculated using the following equations:</p> $RB01_SO2_12RS = \sum_{n=1}^{12} RB01_SO2_MTH_n$ <p>Where:</p> <p>RB01_SO2_12RS = Total 12-month SO₂ rolling sum for the current month for the No. 1 Recovery Furnace, tons/year</p> <p>RB01_SO2_MTH_n = Total Monthly SO₂ Emissions for the given month <i>n</i> for the No. 1 Recovery Furnace, tons/month</p> <p><i>n</i>=1 = the current month in the 12-month rolling sum</p>

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Condition Number	Conditions
	<p>$n=2$ to $12 =$ each of the 11 months previous to the current month in the 12-month rolling sum</p> <p>For each month, the total monthly SO₂ emissions shall be calculated using the following equations:</p> $RB01_SO2_MTH = RB01_SO2_BLS_MTH + RB01_SO2_OIL_MTH + RB01_SO2_ULSD_MTH + RB01_SO2_NG_MTH + RB01_SO2_PRO_MTH$ <p>Where, for the No. 1 Recovery Furnace, RB01:</p> <p>RB01_SO2_MTH = Total monthly SO₂ emissions, tons/month</p> <p>RB01_SO2_BLS_MTH = Total monthly SO₂ emissions from Black Liquor Solids (BLS) Burning, tons/month</p> <p>RB01_SO2_OIL_MTH = Total monthly SO₂ emissions from No. 6 Fuel Oil Burning, tons/month</p> <p>RB01_SO2_ULSD_MTH = Total monthly SO₂ emissions from Ultra Low Sulfur Diesel (ULSD) Burning, tons/month</p> <p>RB01_SO2_NG_MTH = Total monthly SO₂ emissions from Natural Gas Burning, tons/month</p> <p>RB01_SO2_PRO_MTH = Total monthly SO₂ emissions from Propane Burning, tons/month</p> <p>Each term in the equation above shall be calculated as follows:</p> $RB01_SO2_BLS_MTH = RB01_BLS_MTH \times EF_RB01_BLS \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB01_BLS_MTH = Total BLS fired in the month in the No. 1 Recovery Furnace, tons/month</p> <p>EF_RB01_BLS = EF lb/ton BLS, SO₂ emission factor (EF) developed for the No. 1 Recovery Furnace from the most recent Bureau approved stack test</p> $RB01_SO2_OIL_MTH = RB01_OIL_MTH \times EF_OIL \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB01_OIL_MTH = Total No. 6 fuel oil fired in the month in the No. 1 Recovery Furnace, in 1,000 gallons</p> <p>EF_OIL = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.3, where S = percent sulfur</p>

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	<p>content of No. 6 fuel oil obtained from the most recent fuel oil supplier certification, 2.1% or less</p> <p><i>RB01_SO2_ULSD_MTH = RB01_ULSD_MTH x EF_ULSD x 1 ton / 2,000 lb</i></p> <p>Where:</p> <p>RB01_ULSD_MTH = Total ULSD fired in the month in the No. 1 Recovery Furnace, in 1,000 gallons</p> <p>EF_ULSD = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.3, where S = percent sulfur content of Ultra-Low Sulfur Diesel (ULSD), 15 ppmw (0.0015%) or less</p> <p><i>RB01_SO2_NG_MTH = RB01_NG_MTH x EF_NG x 1 ton / 2,000 lb</i></p> <p>Where:</p> <p>RB01_NG_MTH = Total natural gas fired in the month in the No. 1 Recovery Furnace, in 1,000,000 standard cubic feet (SCF)</p> <p>EF_NG = EF lb/million SCF, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.4</p> <p><i>RB01_SO2_PRO_MTH = RB01_PRO_MTH x EF_PRO x 1 ton / 2,000 lb</i></p> <p>Where:</p> <p>RB01_PRO_MTH = Total propane fired in the month in the No. 1 Recovery Furnace, in 1,000 gallons</p> <p>EF_PRO = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.5 where S=percent sulfur content of propane obtained from the most recent propane supplier certification</p> <p>Records of fuel use, sulfur contents, and SO₂ emissions along with supporting data and information along with any corrective actions taken shall be kept on site and made available to the Department on request.</p> <p>Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the</p>

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Condition Number	Conditions
	<p>reporting period, shall be submitted semiannually. The semiannual report for the January – June period is due by the 30th day of July. The semiannual report for the July – December period is due by the 30th day of January.</p>
B.2	<p>Emission Unit ID: 01 Equipment ID: RB02 Control Device ID: RB2 Scrubber</p> <p>(S.C. Regulation 61-62.1, Section II(E)) The facility has requested a federally enforceable emission limitation to limit its potential to emit to less than 1,132.0 tons per year for sulfur dioxide (SO₂) emissions from the No. 2 Recovery Furnace.</p> <p>The owner/operator shall maintain black liquor solids throughput, fuel oil usage, fuel oil sulfur content, ultra-low sulfur diesel (ULSD) usage, natural gas usage, and any other records necessary to determine SO₂ emissions from RB02. SO₂ emissions shall be calculated on a monthly basis, and a twelve-month rolling sum shall be calculated for total SO₂ emissions. Emissions from startups, shutdowns, and malfunctions are required to be quantified and included in the calculations. The twelve-month rolling sum shall be less than 1,132.0 tons of SO₂. The monthly and the twelve-month rolling sums for SO₂ emissions shall be calculated using the following equations:</p> $RB02_SO2_12RS = \sum_{n=1}^{12} RB02_SO2_MTH_n$ <p>Where:</p> <p>RB02_SO2_12RS = Total 12-month SO₂ rolling sum for the current month for the No. 2 Recovery Furnace, tons/year</p> <p>RB02_SO2_MTH_n = Total Monthly SO₂ Emissions for the given month n for the No. 2 Recovery Furnace, tons/month</p> <p>n=1 = the current month in the 12-month rolling sum</p> <p>n=2 to 12 = each of the 11 months previous to the current month in the 12-month rolling sum</p> <p>For each month, the total monthly SO₂ emissions shall be calculated using the following equations:</p> $RB02_SO2_MTH = RB02_SO2_BLS_MTH + RB02_SO2_OIL_MTH + RB02_SO2_ULSD_MTH + RB02_SO2_NG_MTH + RB02_SO2_PRO_MTH$ <p>Where, for the No. 2 Recovery Furnace, RB02:</p>

B. LIMITATIONS, MONITORING, AND REPORTING

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	<p>RB02_SO2_MTH = Total monthly SO₂ emissions, tons/month</p> <p>RB02_SO2_BLS_MTH = Total monthly SO₂ emissions from Black Liquor Solids (BLS) Burning, tons/month</p> <p>RB02_SO2_OIL_MTH = Total monthly SO₂ emissions from No. 6 Fuel Oil Burning, tons/month</p> <p>RB02_SO2_ULSD_MTH = Total monthly SO₂ emissions from Ultra-Low Sulfur Diesel (ULSD) Burning, tons/month</p> <p>RB02_SO2_NG_MTH = Total monthly SO₂ emissions from Natural Gas Burning, tons/month</p> <p>RB02_SO2_PRO_MTH = Total monthly SO₂ emissions from Propane Burning, tons/month</p>
	<p>Each term in the equation above shall be calculated as follows:</p> $RB02_SO2_BLS_MTH = RB02_BLS_MTH \times EF_RB02_BLS \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB02_BLS_MTH = Total BLS fired in the month in the No. 2 Recovery Furnace, tons/month</p> <p>EF_RB02_BLS = EF lb/ton BLS, SO₂ emission factor (EF) developed for the No. 2 Recovery Furnace from the most recent Bureau approved stack test</p> $RB02_SO2_OIL_MTH = RB02_OIL_MTH \times EF_OIL \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB02_OIL_MTH = Total No. 6 fuel oil fired in the month in the No. 2 Recovery Furnace, in 1,000 gallons</p> <p>EF_OIL = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.3, where S = percent sulfur content of No. 6 fuel oil obtained from the most recent fuel oil supplier certification, 2.1% or less</p> $RB02_SO2_ULSD_MTH = RB02_ULSD_MTH \times EF_ULSD \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB02_ULSD_MTH = Total ULSD fired in the month in the No. 2 Recovery Furnace, in 1,000 gallons</p> <p>EF_ULSD = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-</p>

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	<p>42: Compilation of Air Emission Factors, Chapter 1.3, where S = percent sulfur content of Ultra-Low Sulfur Diesel (ULSD), 15 ppmw (0.0015%) or less</p> $RB02_SO2_NG_MTH = RB02_NG_MTH \times EF_NG \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB02_NG_MTH = Total natural gas fired in the month in the No. 2 Recovery Furnace, in 1,000,000 standard cubic feet (SCF)</p> <p>EF_NG = EF lb/million SCF, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.4</p> $RB02_SO2_PRO_MTH = RB02_PRO_MTH \times EF_PRO \times 1 \text{ ton} / 2,000 \text{ lb}$ <p>Where:</p> <p>RB02_PRO_MTH = Total propane fired in the month in the No. 2 Recovery Furnace, 1,000 gallons</p> <p>EF_PRO = EF x S lb/1,000 gallons, SO₂ emission factor (EF) from the most recent AP-42: Compilation of Air Emission Factors, Chapter 1.5, where S=percent sulfur content of propane obtained from the most recent propane supplier certification</p> <p>Records of fuel use, sulfur contents, and SO₂ emissions along with supporting data and information along with any corrective actions taken shall be kept on site and made available to the Department on request.</p> <p>Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted semiannually. The semiannual report for the January – June period is due by the 30th day of July. The semiannual report for the July – December period is due by the 30th day of January.</p>
B.3	<p>Emission Unit ID: 01 Equipment ID: RB02 Control Device ID: RB2 Scrubber</p> <p>(S.C. Regulation 61-62.1, Section II(E)) The facility has requested a federally enforceable emission limitation to limit its potential to emit to less than 130.0 parts per million (ppm), on an annual average basis, for sulfur dioxide (SO₂) emissions from the No. 2 Recovery Furnace. Compliance with this limit</p>

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	<p>will be demonstrated through operating and monitoring the No. 2 Recovery Wet Scrubber.</p> <p>(S.C. Regulation 61-62.1, Section II(j)(2)) The No. 2 Recovery Furnace Wet Scrubber (equipment ID RB2 Scrubber) shall be monitored by the methods in 40 CFR 63, Subpart MM - NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills.</p> <p>Note: The monitoring uses 40 CFR Part 63 monitoring methods; however, this is not a 40 CFR Part 63 (MACT) condition.</p> <p>§63.864 Monitoring requirements.</p> <p>(e) Continuous parameter monitoring system (CPMS). For each CPMS required in this section, the owner or operator of each affected source or process unit must meet the requirements in paragraphs (e)(1) through (14) of this section.</p> <p>(2) For any kraft or soda recovery furnace or lime kiln using an ESP followed by a wet scrubber, the owner or operator must follow the parameter monitoring requirements specified in paragraphs (e)(1) and (10) of this section. The opacity monitoring system specified in paragraph (d) of this section is not required for combination ESP/wet scrubber control device systems.</p> <p>(10) The owner or operator of each affected kraft or soda recovery furnace, kraft or soda lime kiln, sulfite combustion unit, or kraft or soda smelt dissolving tank equipped with a wet scrubber must install, calibrate, maintain, and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in §63.8(c), as well as the procedures in paragraphs (e)(10)(i) and (ii) of this section:</p> <p>(i) A monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ± 500 pascals (± 2 inches of water gage pressure); and</p> <p>(ii) A monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate.</p> <p>(13) The owner or operator of each affected source or process unit that uses an ESP, wet scrubber, RTO, or fabric filter may monitor alternative control device operating parameters subject to prior written approval by the Administrator. The request for approval must also include the manner in which the parameter operating limit is to be set.</p>

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B. LIMITATIONS, MONITORING, AND REPORTING	
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	<p>(f) Data quality assurance. The owner or operator shall keep CMS data quality assurance procedures consistent with the requirements in §63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in §63.8(d)(2) is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under §63.8(d)(2).</p> <p>(h) Monitoring data. As specified in §63.8(g)(5), 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 must not be included in any data average computed under this subpart.</p>
B.4	<p>Emission Unit ID: 01 Equipment ID: RB02 Control Device ID: RB2 Scrubber</p> <p>(S.C. Regulation 61-62.1, Section II(E)) The facility has requested a federally enforceable emission limitation to limit its potential to emit to less than 130.0 parts per million (ppm) @ 8% O₂, dry basis, on an annual average basis, for sulfur dioxide (SO₂) emissions from the No. 2 Recovery Furnace. Compliance with this limit will be demonstrated through operating and monitoring the No. 2 Recovery Wet Scrubber.</p> <p>This source is subject to <i>40 CFR Part 64, Compliance Assurance Monitoring (CAM)</i> (large unit) and shall comply with all applicable provisions. To show reasonable assurance of continuing compliance with the SO₂ emission limitation, the owner or operator shall use the continuous parametric monitoring system used as the scrubber monitoring method for the required periodic PM monitoring for <i>40 CFR Part 63, Subparts A and MM (MACT MM)</i>. Pursuant to §64.2(b)(1)(i) or (vi), monitoring methods for <i>40 CFR Part 63, Subparts A and MM</i> are considered by the Department as presumptively acceptable as CAM monitoring methods. The scrubbing liquid flow and scrubber pressure drop as measured by the CPMS will be the CAM indicators for SO₂.</p> <p>The owner or operator shall maintain the monitoring methods, sampling frequencies, data collection procedures, averaging time(s) (where appropriate), and operation and maintenance practices summarized below. Corrective action shall be taken for any excursions of the established CAM indicator ranges. [§64.6(c)(1)(iii) and 64.3(b); SC Reg. 61-62.70(6)(3)(i)(A) {Streamlining}]</p> <p>Operational ranges for the monitored parameters have been established to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters were derived from stack test data and MACT MM range limitations, which demonstrate the proper operation of the equipment. The facility shall maintain the established ranges and supporting documentation for these monitored parameters. Operating ranges may be updated following</p>

B. LIMITATIONS, MONITORING, AND REPORTING	
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	<p>submittal to the Department.</p> <p>The owner/operator shall verify, as necessary, the existing scrubber operating parameter ranges through testing or modify the ranges to assure reasonable assurance of continuing compliance with the SO₂ limitations. Verification or modification of the scrubber operation ranges will be based on SO₂ source testing in accordance with <i>SC Reg. 61-62.1, Sec. IV - Source Tests</i>. The verified existing and modified (if modified) ranges will be submitted to the Director of Air Permitting, Bureau of Air Quality for approval. The operating ranges may be subsequently updated using this procedure, following submittal to the Director of Air Permitting, Bureau of Air Quality for approval.</p> <p>Upon detecting an excursion (when any 3-hour rolling average is outside established CAM scrubber excursion ranges), the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing any startup, shutdown or malfunction period and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. The owner or operator shall follow all applicable quality control/quality assurance, calibration, operation and maintenance, record keeping, and reporting requirements of <i>MACT MM. [40 CFR 63.864; §63.866; §63.867; §63.8; §63.10]</i></p> <p>A semiannual report for monitoring shall be submitted to the Bureau. The semiannual report for the January – June period is due by the 30th day of July. The semiannual report for the July – December period is due by the 30th day of January. The report shall include, at a minimum, the following information as applicable:</p> <ul style="list-style-type: none"> • Summary information of the number, duration and cause (including unknown cause, if applicable) of excursion and exceedances, as applicable, and the corrective actions taken; • Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero span or other daily calibration checks, if applicable); • If a Quality Improvement Plan (QIP) is required by the Department pursuant to §64.8, a description of the actions taken to implement a (QIP) during the reporting period as specified in §64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions and/or exceedances occurring. <p>If the CPMS data (excluding bad CPMS data) shows excursions over the CAM indicator excursion level six (6) or more 3-hour rolling average parameter values outside the range of values established within any six-month (6-month) reporting period with no more than one exceedance being attributed in any given 24-hour period, the owner/operator shall perform a stack test in the following calendar quarter to demonstrate compliance with the SO₂ emission limitation. The owner/operator shall submit and</p>

B. LIMITATIONS, MONITORING, AND REPORTING	
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	<p>have Department approval for a compliance test protocol representative of operational conditions during the period in question as required by <i>SC Reg. 62.1, Sec. IV - "Source Tests"</i> before conducting any tests.</p>
<p>B.5</p>	<p>Emission Unit ID: 01 Equipment ID: PB01, PB02</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section III) The maximum allowable discharge of sulfur dioxide (SO₂) resulting from these sources is 2.3 pounds per million BTU input, 3-hour rolling average basis.</p> <p>Monitoring, record keeping, and reporting to demonstrate compliance with this limit, for each boiler, shall be in accordance with 40 CFR 60, Subpart D.</p>
<p>B.6</p>	<p>Emission Unit ID: 01 Equipment ID: PB01, PB02</p> <p>§60.43 Standard for sulfur dioxide (SO₂).</p> <p>(a) Except as provided under paragraph (d) of this section, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases that contain SO₂ in excess of:</p> <p style="padding-left: 40px;">(1) 340 ng/J heat input (0.80 lb/MMBtu) derived from liquid fossil fuel or liquid fossil fuel and wood residue.</p> <p style="padding-left: 40px;">(2) 520 ng/J heat input (1.2 lb/MMBtu) derived from solid fossil fuel or solid fossil fuel and wood residue, except as provided in paragraph (e) of this section.</p> <p>(b) Except as provided under paragraph (d) of this section, when different fossil fuels are burned simultaneously in any combination, the applicable standard (in ng/J) shall be determined by proration using the following formula:</p> $PS_{SO_2} = \frac{y (340) + z (520)}{(y + z)}$ <p>Where:</p> <p>PS_{SO2} = Prorated standard for SO₂ when burning different fuels simultaneously, in ng/J heat input derived from all fossil fuels or from all fossil fuels and wood residue fired;</p> <p>y = Percentage of total heat input derived from liquid fossil fuel; and</p> <p>z = Percentage of total heat input derived from solid fossil fuel.</p>

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(c) Compliance shall be based on the total heat input from all fossil fuels burned, including gaseous fuels.

Emission Unit ID: 01
Equipment ID: PB01, PB02

§60.45 Emissions and fuel monitoring.

(a) Each owner or operator of an affected facility subject to the applicable emissions standard shall install, calibrate, maintain, and operate continuous opacity monitoring system (COMS) for measuring opacity and a continuous emissions monitoring system (CEMS) for measuring SO₂ emissions, NO_x emissions, and either oxygen (O₂) or carbon dioxide (CO₂) except as provided in paragraph (b) of this section.

(c) For performance evaluations under §60.13(c) and calibration checks under §60.13(d), the following procedures shall be used:

(1) Methods 6, 7, and 3B of appendix A of this part, as applicable, shall be used for the performance evaluations of SO₂ and NO_x continuous monitoring systems. Acceptable alternative methods for Methods 6, 7, and 3B of appendix A of this part are given in §60.46(d).

(2) Sulfur dioxide or nitric oxide, as applicable, shall be used for preparing calibration gas mixtures under Performance Specification 2 of appendix B to this part.

(3) For affected facilities burning fossil fuel(s), the span value for a continuous monitoring system measuring the opacity of emissions shall be 80, 90, or 100 percent. For a continuous monitoring system measuring sulfur oxides or NO_x the span value shall be determined using one of the following procedures:

(i) Except as provided under paragraph (c)(3)(ii) of this section, SO₂ and NO_x span values shall be determined as follows:

Fossil Fuel	In part per million	
	Span value for SO ₂	Span value for NO _x
Gas	(1)	...
Liquid	1,000	...
Solid	1,500	...
Combinations	1,000y + 1,500z	...
(1) Not applicable		

Where:

B.7

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	<p>x = Fraction of total heat input derived from gaseous fossil fuel;</p> <p>y = Fraction of total heat input derived from liquid fossil fuel; and</p> <p>z = Fraction of total heat input derived from solid fossil fuel.</p> <p>(ii) As an alternative to meeting the requirements of paragraph (c)(3)(i) of this section, the owner or operator of an affected facility may elect to use the SO₂ and NO_x span values determined according to sections 2.1.1 and 2.1.2 in appendix A to part 75 of this chapter.</p> <p>(4) All span values computed under paragraph (c)(3)(i) of this section for burning combinations of fossil fuels shall be rounded to the nearest 500 ppm. Span values that are computed under paragraph (c)(3)(ii) of this section shall be rounded off according to the applicable procedures in section 2 of appendix A to part 75 of this chapter.</p> <p>(5) For a fossil-fuel-fired steam generator that simultaneously burns fossil fuel and nonfossil fuel, the span value of all CEMS shall be subject to the Administrator's approval.</p> <p>(e) For any CEMS installed under paragraph (a) of this section, the following conversion procedures shall be used to convert the continuous monitoring data into units of the applicable standards (ng/l, lb/MMBtu):</p> <p>(1) When a CEMS for measuring O₂ is selected, the measurement of the pollutant concentration and O₂ concentration shall each be on a consistent basis (wet or dry). Alternative procedures approved by the Administrator shall be used when measurements are on a wet basis. When measurements are on a dry basis, the following conversion procedure shall be used:</p> $E = CF \left(\frac{20.9}{(20.9 - \%O_2)} \right)$ <p>Where E, C, F, and %O₂ are determined under paragraph (f) of this section.</p> <p>(2) When a CEMS for measuring CO₂ is selected, the measurement of the pollutant concentration and CO₂ concentration shall each be on a consistent basis (wet or dry) and the following conversion procedure shall be used:</p> $E = CF_c \left(\frac{100}{\%CO_2} \right)$ <p>Where E, C, F_c and %CO₂ are determined under paragraph (f) of this section.</p>

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	<p>(f) The values used in the equations under paragraphs (e)(1) and (2) of this section are derived as follows:</p> <p>(1) E = pollutant emissions, ng/J (lb/MMBtu).</p> <p>(2) C = pollutant concentration, ng/dscm (lb/dscf), determined by multiplying the average concentration (ppm) for each one-hour period by 4.15×10^4 M ng/dscm per ppm (2.59×10^{-9} M lb/dscf per ppm) where M = pollutant molecular weight, g/g-mole (lb/lb-mole). M = 64.07 for SO₂ and 46.01 for NO_x.</p> <p>(3) %O₂, %CO₂ = O₂ or CO₂ volume (expressed as percent), determined with equipment specified under paragraph (a) of this section.</p> <p>(4) F, F_c = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted (F), and a factor representing a ratio of the volume of CO₂ generated to the calorific value of the fuel combusted (F_c), respectively. Values of F and F_c are given as follows:</p> <p>(ii) For subbituminous and bituminous coal as classified according to ASTM D388 (incorporated by reference, see §60.17), $F = 2.637 \times 10^{-7}$ dscm/J (9,820 dscf/MMBtu) and $F_c = 0.486 \times 10^{-7}$ scm CO₂/J (1,810 scf CO₂/MMBtu).</p> <p>(iii) For liquid fossil fuels including crude, residual, and distillate oils, $F = 2.476 \times 10^{-7}$ dscm/J (9,220 dscf/MMBtu) and $F_c = 0.384 \times 10^{-7}$ scm CO₂/J (1,430 scf CO₂/MMBtu).</p> <p>(iv) For gaseous fossil fuels, $F = 2.347 \times 10^{-7}$ dscm/J (8,740 dscf/MMBtu). For natural gas, propane, and butane fuels, $F_c = 0.279 \times 10^{-7}$ scm CO₂/J (1,040 scf CO₂/MMBtu) for natural gas, 0.322×10^{-7} scm CO₂/J (1,200 scf CO₂/MMBtu) for propane, and 0.338×10^{-7} scm CO₂/J (1,260 scf CO₂/MMBtu) for butane.</p> <p>(v) For bark $F = 2.589 \times 10^{-7}$ dscm/J (9,640 dscf/MMBtu) and $F_c = 0.500 \times 10^{-7}$ scm CO₂/J (1,840 scf CO₂/MMBtu). For wood residue other than bark $F = 2.492 \times 10^{-7}$ dscm/J (9,280 dscf/MMBtu) and $F_c = 0.494 \times 10^{-7}$ scm CO₂/J (1,860 scf CO₂/MMBtu).</p> <p>(5) The owner or operator may use the following equation to determine an F factor (dscm/J or dscf/MMBtu) on a dry basis (if it is desired to calculate F on a wet basis, consult the Administrator) or F_c factor (scm CO₂/J, or scf CO₂/MMBtu) on either basis in lieu of the F or F_c factors specified in paragraph (f)(4) of this section:</p>

B. LIMITATIONS, MONITORING, AND REPORTING

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$$F = 10^{-6} \frac{[227.2 (\%H) + 95.5 (\%C) + 35.6 (\%S) + 8.7 (\%N) - 28.7 (\%O)]}{GCV}$$

$$F_c = \frac{2.0 \times 10^{-5} (\%C)}{GCV \text{ (SI units)}}$$

$$F = 10^{-6} \frac{[3.64 (\%H) + 1.53 (\%C) + 0.57 (\%S) + 0.14 (\%N) - 0.46 (\%O)]}{GCV \text{ (English units)}}$$

$$F_c = \frac{20.0 (\%C)}{GCV \text{ (SI units)}}$$

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV \text{ (English units)}}$$

(i) %H, %C, %S, %N, and %O are content by weight of hydrogen, carbon, sulfur, nitrogen, and O₂ (expressed as percent), respectively, as determined on the same basis as GCV by ultimate analysis of the fuel fired, using ASTM D3178 or D3176 (solid fuels), or computed from results using ASTM D1137, D1945, or D1946 (gaseous fuels) as applicable. (These five methods are incorporated by reference, see §60.17.)

(ii) GCV is the gross calorific value (kJ/kg, Btu/lb) of the fuel combusted determined by the ASTM test methods D2015 or D5865 for solid fuels and D1826 for gaseous fuels as applicable. (These three methods are incorporated by reference, see §60.17.)

(iii) For affected facilities which fire both fossil fuels and nonfossil fuels, the F or F_c value shall be subject to the Administrator's approval.

(6) For affected facilities firing combinations of fossil fuels or fossil fuels and wood residue, the F or F_c factors determined by paragraphs (f)(4) or (f)(5) of this section shall be prorated in accordance with the applicable formula as follows:

$$F = \sum_{i=1}^n X_i F_i \quad \text{or} \quad F_c = \sum_{i=1}^n X_i (F_c)_i$$

Where:

X_i = Fraction of total heat input derived from each type of fuel (e.g. natural gas, bituminous coal, wood residue, etc.);

F_i or (F_c)_i = Applicable F or F_c factor for each fuel type determined in accordance

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B. LIMITATIONS, MONITORING, AND REPORTING	
Condition Number	Conditions
	<p>with paragraphs (f)(4) and (f)(5) of this section; and</p> <p>n = Number of fuels being burned in combination.</p> <p>(g) Excess emission and monitoring system performance reports shall be submitted to the Administrator semiannually for each six-month period in the calendar year. All semiannual reports shall be postmarked by the 30th day following the end of each six-month period. Each excess emission and MSP report shall include the information required in §60.7(c). Periods of excess emissions and monitoring systems (MS) downtime that shall be reported are defined as follows:</p> <p>(2) Sulfur dioxide. Excess emissions for affected facilities are defined as:</p> <p>(i) For affected facilities electing not to comply with §60.43(d), any three-hour period during which the average emissions (arithmetic average of three contiguous one-hour periods) of SO₂ as measured by a CEMS exceed the applicable standard in §60.43;</p>
B.8	<p>Emission Unit ID: 01 Equipment ID: PB01, PB02</p> <p>(S.C. Regulation 61-62.1, Section II(J)(2)) The semiannual reports of excess emissions and monitoring system performance, as required by §60.45, shall be submitted based on the reporting periods of January – June and July – December and shall be submitted by the 30th day after the end of the reporting period (§60.45(g)).</p>
B.9	<p>Emission Unit ID: 01 Equipment ID: RB01, RB02, PB01, PB02 Control Device ID: RB1ESP, RB2ESP, RB2 Scrubber, PB1Cyclone, PB1ESP, PB2Cyclone, PB2ESP</p> <p>The owner or operator shall continue to operate under all applicable requirements, including emission limits and standards, testing, monitoring, record keeping, and reporting under the existing Title V Operating Permit (1140-0002) and any unincorporated construction permits that are not changed or contravened by this construction permit.</p>

C. NESHAP (40 CFR 61 AND 40 CFR 63) - RESERVED

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D. GENERAL FACILITY WIDE	
Condition Number	Conditions
D.1	The owner or operator shall comply with S.C. Regulation 61-62.6, Control of Fugitive Particulate Matter, Section III Control of Fugitive Particulate Matter Statewide.
D.2	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.
D.3	<p>In the event of an emergency, as defined in S.C. Regulation 61-62.1, Section II(L), the owner or operator may document an emergency situation through properly signed, contemporaneous operating logs, and other relevant evidence that verify:</p> <ol style="list-style-type: none"> 1. An emergency occurred, and the owner or operator can identify the cause(s) of the emergency; 2. The permitted source was at the time the emergency occurred being properly operated; 3. During the period of the emergency, the owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and 4. The owner or operator gave a verbal notification of the emergency to the Department within twenty-four (24) hours of the time when emission limitations were exceeded, followed by a written report within thirty (30) days. The written report shall include, at a minimum, the information required by S.C. Regulation 61-62.1, Section II(J)(1)(c)(i) through (J)(1)(c)(viii). The written report shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. <p>This provision is in addition to any emergency or upset provision contained in any applicable requirement.</p>
D.4	<p>(S.C. Regulation 61-62.1, Section II(O)) Upon presentation of credentials and other documents as may be required by law, the owner or operator shall allow the Department or an authorized representative to perform the following:</p> <ol style="list-style-type: none"> 1. Enter the facility where emissions-related activity is conducted, or where records must be kept under the conditions of the permit. 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. 3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit. 4. As authorized by the Federal Clean Air Act and/or the S.C. Pollution Control Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
D.5	(S.C. Regulation 61-62.1, Section II(J)(1)(a)) No applicable law, regulation, or standard will be contravened.
D.6	(S.C. Regulation 61-62.1, Section II(J)(1)(e)) Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this regulation or with

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D. GENERAL FACILITY WIDE	
Condition Number	Conditions
	the terms of any approval to construct, or who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to enforcement action.

E. EMISSIONS INVENTORY REPORTS - RESERVED	
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F. GENERAL RECORD KEEPING AND REPORTING	
Condition Number	Conditions
F.1	(S.C. Regulation 61-62.1, Section II(J)(1)(g)) A copy of the Department issued construction and/or operating permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods at locations, intervals, and procedures as the Department shall prescribe; and provide such other information as the Department reasonably may require. All records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years from the date the record was generated and shall be made available to a Department representative upon request.
F.2	The owner or operator shall submit reports required in this permit in a timely manner and according to the reporting schedule established through the Department's approved electronic permitting system.
F.3	All reports and notifications required under this permit shall be submitted to the Department.
F.4	(S.C. Regulation 61-62.1, Section II(A)(3)) The owner or operator shall submit written notification to the Department of the date construction is commenced, postmarked within thirty (30) days after such date.
F.5	(S.C. Regulation 61-62.1, Section II(J)(1)(c)) For sources not required to have continuous emission monitors, any malfunction of air pollution control equipment or system, process upset, or other equipment failure which results in discharges of air contaminants lasting for one (1) hour or more and which are greater than those discharges described for normal operation in the permit application, shall be reported to the Department within twenty-four (24) hours after the beginning of the occurrence and a written report shall be submitted to the Department within thirty (30) days. The written report shall include, at a minimum, the following: <ol style="list-style-type: none">1. The identity of the stack and/or emission point where the excess emissions occurred;2. The magnitude of excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the excess emissions;

F. GENERAL RECORD KEEPING AND REPORTING	
Condition Number	Conditions
	<ol style="list-style-type: none"> 3. The time and duration of excess emissions; 4. The identity of the equipment causing the excess emissions; 5. The nature and cause of such excess emissions; 6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction; 7. The steps taken to limit the excess emissions; and, 8. Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions. <p>The initial twenty-four (24) hour notification should be made to the Department's local Regional Office.</p> <p>The written report should be sent to the Department.</p>

G. PERMIT EXPIRATION AND EXTENSION	
Condition Number	Conditions
G.1	<p>(S.C. Regulation 61-62.1, Section II(A)(4) and (5) and S.C. Regulation 61-62.1, Section II(J)(1)(f)) Approval to construct shall become invalid if construction:</p> <ol style="list-style-type: none"> a. Is not commenced within eighteen (18) months after receipt of such approval; b. Is discontinued for a period of eighteen (18) months or more; or c. Is not completed within a reasonable time as deemed by the Department. <p>The Department may extend the construction permit for an additional eighteen (18) month period upon a satisfactory showing that an extension is justified. This request must be made prior to the permit expiration.</p> <p>This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within eighteen (18) months of the projected and approved commencement date.</p>

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H. PERMIT TO OPERATE	
Condition Number	Conditions
H.1	(S.C. Regulation 61-62.1, Section II(F)(2)) When a Department issued construction permit includes only emission limits, monitoring, reporting, and/or other requirements that do not establish engineering or construction specifications for the project, the owner or operator may operate the source in compliance with the terms and conditions of the construction permit until the operating permit is issued by the Department.
H.2	(S.C. Regulation 61-62.1, Section II(F)(1)) The owner or operator shall submit written notification to the Department of the actual date of initial startup of each new or altered source, postmarked within fifteen (15) days after such date. Any source that is required to obtain an air quality construction permit issued by the Department must obtain an operating permit when the new or altered source is placed into operation and shall comply with the requirements of this section.
H.3	(S.C. Regulation 61-62.1, Section II(F)(4)(a)) For sources covered by an effective Title V Operating Permit, the modification request required by S.C. Regulation 61-62.70 shall serve as the request to operate for the purposes of S.C. Regulation 61-62.1, Section II(F). The request should be made using the appropriate Title V modification form.

I. AMBIENT AIR STANDARDS	
Condition Number	Conditions
I.1	<p>Air dispersion modeling (or other method) has previously demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded.</p> <p>The owner or operator shall maintain this facility at or below the emission rates used in the most recent air dispersion modeling (or other method) demonstration submitted to and approved by the Department, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates used in the demonstration, not to exceed the pollutant limitations in the body of this permit, it may do so by submitting a new demonstration for approval. This condition along with the referenced modeling demonstration will also serve to meet the intent of S.C. Regulation 61-62.5, Standard No. 8, Section II(D). This is a State Only enforceable requirement.</p>