



S.C. Department of Health and  
Environmental Control

## **Bureau of Air Quality Synthetic Minor Construction Permit**

**Enviva Pellets Greenwood, LLC.  
200 Enviva Way  
Greenwood, South Carolina 29649  
Greenwood 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 February 10, 2020, 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: 1240-0133-CC**  
**Issue Date: DRAFT**

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

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<b>RECORD OF REVISIONS</b>	
<b>Date</b>	<b>Description of Changes</b>

DRAFT

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### A. PROJECT DESCRIPTION

Permission is hereby granted to increase the wood pellet production rate by adding additional equipment, adding particulate matter control devices, by controlling the volatile organic compounds (VOC) emissions from the Dry Hammermills, and by increasing the firing capacity of the existing VOC control devices. The facility will be limited to a wood pellet production limit of 660,000 oven dried short tons (ODT)/year. Federally enforceable synthetic minor limits for particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>), and volatile organic compounds (VOC) to avoid Prevention of Significant Deterioration (PSD) and hazardous air pollutant (HAP) emission limits to avoid HAP major source status, were established in 1240-0133-CA and were carried over in 1240-0133-CB, 1240-0133-CB-R1 and 1240-0133-CB-R2. These synthetic minor limits shall remain in-place with this project to maintain the facility's status as a non-major PSD source and an area source of HAP. This project consists of the following modifications:

- Increase the wood pellet plant production limit to 660,000 ODT/year.
- Increase Woodyard throughput rate from 541,500 ODT per year to 876,000 ODT per year for the Debarker (E1) and 766,500 ODT per year for the other woodyard operations.
- Increase the amount of softwood processed from a maximum of 90% to 100%.
- Replace the existing five (5) Horizontal Dry Hammermills (DHMs) with thirty-six (36) new Vertical DHMs. Emissions will be controlled by the existing Wet Electrostatic Precipitator (WESP) (CD2) and Regenerative Thermal Oxidizer RTO1 (CD3) and, a new Bin Vent Filter (CD24).
- Add one (1) new Green Hammermill, three (3) new Pelletizers, one (1) new Pellet Cooler, one (1) new Baghouse and update the as-built configuration of the Dust Silo control devices to a single Cyclofilter (CD23).
- Update the firing capacity of (RTO1) (CD3) to four (4) burners each rated at 8 MMBtu / hr, update the firing capacity of RTO2/RCO1 (CD15) to 5.2 MM Btu/hr (single burner), and update the firing capacity of RTO3/RCO2 (CD19) to two (2) burners each rated at 5.2 MMBtu/hr.
- Add the following new exempt sources: Truck Dump 2, one (1) Electric Powered Radial Log Crane, and one (1) Air-to-Air Chiller. Note: the Electric Powered Radial Log Crane, and Air-to-Air Chiller are not sources of air emissions.
- Up-date the facility emissions to include emissions from existing sources including the Dryer Duct Burner, Furnace Bypass Stack (S15), and Fugitive Particulate Matter emissions from an existing truck dump and from vehicle traffic on unpaved and paved roads.

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**B.1 EQUIPMENT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
E1-E3	Debarking, Green Wood Chipping, Screening	None	S0
E5	Legacy Piles 1 through 4	None	S0
E4-E5	Fuel Storage Pile 1	None	S0
E5	Fuel Storage Feeder Bin	None	S0
E4-E5	Stacker/Reclaimer Pile	None	S0
E5	Chip Bin Pile	None	S0
E6-E9, E58	Green Hammermills 1 – 4 New Green Hammermill 5	CD2-CD3	S1
E10	Green Chip Silo	CD2-CD3	S1
E11	one (1) 200 million Btu/hr furnace, fueled by bark & wood chips	CD2-CD3	S1, S15- Furnace Bypass Stack
E12	one (1) Rotary Dryer, direct heat input from the Furnace (E11) (exhaust to a Cyclone Pack (Multiclone) (CD1) for the purpose of product recovery)	CD2-CD3	S1, Dryer Bypass Stack
E48	5 MM Btu/hr, natural gas fired Dryer Duct Burner	None	S16
E13	Dry Chip Silo	CD4	S2
E14-E18	Horizontal Dry Hammermills 1 – 5 (existing sources which will be replaced by new Vertical Dry Hammermills 1-36 (E59-E94))	CD5-CD9	S3 (existing emission point but S3 will be eliminated)
E59-E94	New Vertical Dry Hammermills 1 – 36	CD2, CD3, CD24	S1
E19	Pelletizer Feed Silo	CD10	S4
E20-E22, E24-E26, E28-E30, E23, E27, E31	Pelletizers 1 - 3 Pelletizers 4 - 6 Pelletizers 7 - 9 Pellet Coolers 1 - 3	CD14a, CD14b, CD14c CD15	S5
E32-E34, E36-E38, E49-E51, E35, E39, E52	Pelletizers 10-12 Pelletizers 13-15 New Pelletizers 16-18 Pellet Cooler 4, Pellet Cooler 5, New Pellet Cooler 6	CD18a, CD18b, CD18c, CD19	S6
E40-E41	Pellet Silos 1 - 2	CD20	S7
E42	Loadout Dust Silo	CD21, CD22	S8
E43	(Input lines: Hammermill Dust, Pelletizing Fines, Pelletizing Dust, Loadout Fines)	CD23	S9
E56	Unpaved Roads	None	S0

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### B.1 EQUIPMENT

Equipment ID	Equipment Description	Control Device ID	Emission Point ID
E57	Paved Roads	None	S0
<b>Exempt Sources</b>			
E44-E45	Engine 1 – 865 Hp Generator Engine 2 – 305 Hp Fire Pump	None	S13 S14
E53- E55	2,000 gallon diesel storage tank, 359 gallon diesel storage tank, 660 gallon diesel storage tank,	None	E53 – E55
E46	Truck Dump 1	None	S0
E47	Truck Dump 2 (New)	None	S0

### B.2 CONTROL DEVICES

Control Device ID	Control Device Description	Pollutant(s) Controlled
CD2	Wet Electrostatic Precipitator (WESP)	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD3	(Modified) Regenerative Thermal Oxidizer (RTO1) (four (4) burners heat input capacity of 8 MM Btu/hr per burner, natural gas fired)	VOCs, HAPs
CD4	Bin Vent 1	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD5-CD9	Existing Cyclofilters 1 – 5 (will be removed upon start-up of new vertical dry hammermills)	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD10	Bin Vent 2	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD14a, CD14b, CD14c	Baghouse 1a, Baghouse 1b, Baghouse 1c with integrated cyclones (Cyclofilters)	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD15	(Modified) Regenerative Thermal Oxidizer (RTO2) / Regenerative Catalytic Oxidizer (RCO1) equipped with (one (1) burner heat input capacity of 5.2 MM Btu/hr, natural gas fired)	VOCs, HAPs
CD18a, CD18b	Baghouse 2a, Baghouse 2b with integrated cyclones (Cyclofilters)	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD18c	New Baghouse 4	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD19	(Modified) Regenerative Thermal Oxidizer (RTO3) / Regenerative Catalytic Oxidizer (RCO2) equipped with (two (2) burners heat input capacity of 5.2 MM Btu/hr per burner, natural gas fired)	VOCs, HAPs
CD20	Cyclofilter 6	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD21	Cyclone 6	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD23	Cyclofilter 7	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD22	Baghouse 3	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
CD24	New Bin Vent Filter 3	PM, PM <sub>10</sub> , PM <sub>2.5</sub>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
C.1	<p><b>Equipment ID:</b> All <b>Control Device ID:</b> All</p> <p>(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.</p>
C.2	<p><b>Equipment ID:</b> E6-E43, E49-E52, E58-E94 <b>Control Device ID:</b> All</p> <p>The owner/operator shall inspect, calibrate, adjust, and maintain continuous monitoring systems, monitoring devices, and gauges in accordance with manufacturer's specifications or good engineering practices. The owner/operator shall maintain on file all measurements including continuous monitoring system or monitoring device performance measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required in a permanent form suitable for inspection by Department personnel.</p> <p>(S.C. Regulation 61-62.1, Section II(J)(1)(d)) Sources required to have continuous emission monitors shall submit reports as specified in applicable parts of the permit, law, regulations, or standards.</p>
C.3	<p><b>Equipment ID:</b> E6-E43, E49-E52, E58-E94 <b>Control Device ID:</b> All</p> <p>All gauges shall be readily accessible and easily read by operating personnel and Department personnel (i.e. on ground level or easily accessible roof level). Monitoring parameter readings (i.e., pressure drop readings, etc.) and inspection checks shall be maintained in logs (written or electronic), along with any corrective action taken when deviations occur. Each incidence of operation outside the operational ranges, including date and time, cause, and corrective action taken, shall be recorded and kept on site. Exceedance of operational range shall not be considered a violation of an emission limit of this permit, unless the exceedance is also accompanied by other information demonstrating that a violation of an emission limit has taken place. Reports of these incidences shall be submitted semiannually. If no incidences occurred during the reporting period then a letter shall be submitted to indicate such.</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>Any alternative method for monitoring control device performance must be preapproved by the Department and shall be incorporated into the permit as set forth in S.C. Regulation 61-62.70.7.</p>
<p>C.4</p>	<p><b>Equipment ID:</b> E6-E43, E48-E52, E58-E94  <b>Control Device ID:</b> All</p> <p>All emissions points, duct work and other locations that are required to be tested, shall be designed and constructed in a manner to facilitate testing in accordance with applicable EPA approved source testing methods; including, but not be limited to, methods specifying test port location and sizing criteria.</p> <p>For any source test required under an applicable standard or permit condition, the owner, operator, or representative shall comply with S.C. Regulation 61-62.1, Section IV - Source Tests.</p> <p>Unless approved otherwise by the Department, the owner, operator, or representative shall ensure that source tests are conducted while the source is operating at the maximum expected production rate or other production rate or operating parameter which would result in the highest emissions for the pollutants being tested. Some sources may have to spike fuels or raw materials to avoid being subjected to a more restrictive feed or process rate. Any source test performed at a production rate less than the rated capacity may result in permit limits on emission rates, including limits on production if necessary.</p> <p>When conducting source tests subject to this section, the owner, operator, or representative shall provide the following:</p> <ul style="list-style-type: none"> <li>• Department access to the facility to observe source tests;</li> <li>• Sampling ports adequate for test methods;</li> <li>• Safe sampling site(s);</li> <li>• Safe access to sampling site(s);</li> <li>• Utilities for sampling and testing equipment; and</li> <li>• Equipment and supplies necessary for safe testing of a source.</li> </ul> <p>The owner or operator shall comply with any limits that result from conducting a source test at less than rated capacity. A copy of the most recent Department issued source test summary letter, whether it imposes a limit or not, shall be maintained with the operating permit, for each source that is required to conduct a source test.</p> <p>Site-specific test plans and amendments, notifications, and source test reports shall be submitted to the Manager of the Source Evaluation Section, Bureau of Air Quality.</p>
<p>C.5</p>	<p><b>Equipment ID:</b> Facility Wide  <b>Control Device ID:</b> All</p> <p>With the issuance of this Synthetic Minor Construction Permit, the following construction permits</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	1240-0133-CA, 1240-0133-CB, 1240-0133-CB-R1, and 1240-0133-CB-R2 will be superseded by Synthetic Minor Construction Permit 1240-0133-CC..
C.6	<p><b>Equipment ID:</b> Facility-Wide  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II.E) This facility has established federally enforceable operating limitations to limit its potential to emit to less than 250.0 tons per year for volatile organic compounds (VOCs), less than 250.0 tons per year for particulate matter (PM), less than 250.0 tons per year for particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>), and less than 250.0 tons per year for particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>), to avoid Prevention of Significant Deterioration (PSD).</p> <p>The owner/operator shall maintain production rate, material throughput in the appropriate units of measurements such as (ODT/hr), (ODT/month) (ODT/year), (lb/hr), (tons/year), fuel usage, etc. records and any other records necessary to determine compliance with facility wide synthetic minor limits for VOC, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. VOC, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions shall be calculated by using the approved emission factors and shall be calculated on a monthly basis, and a twelve-month rolling sum shall be calculated for total VOC, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. Facility-wide emission totals must include emissions from insignificant activities. The twelve month rolling sum shall be less than 250.0 tons for total VOC, shall be less than 250.0 tons for PM, shall be less than 250.0 tons for PM<sub>10</sub>, and shall be less than 250.0 tons for PM<sub>2.5</sub>. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, and operating parameters and algorithms in the permit Attachment - Algorithms shall be submitted semiannually.</p>
C.7	<p><b>Equipment ID:</b> Facility-Wide  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II(E)) This facility has established federally enforceable operating limitations to limit its potential to emit to less than 10.0 tons per year for any single HAP emission and 25.0 tons per year for any combination of HAP emissions to Avoid Major Source HAP status.</p> <p>The owner/operator shall maintain production rate, material throughput, fuel usage, etc. records and any other records necessary to determine facility wide HAP emissions for Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol and Propionaldehyde. HAP emissions shall be calculated by using approved emission factors and shall be calculated on a monthly basis, and a twelve-month rolling sum shall be calculated for individual HAP, and total HAP emissions. Facility-wide emission totals must include emissions from insignificant activities. The twelve-month rolling sum shall be less than 10.0 tons for any single HAP and shall be less than 25.0 tons for total combined HAPs. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, and operating parameters and algorithms in the permit Attachment - algorithms shall be submitted semiannually.</p>
C.8	<b>Equipment ID:</b> Facility-Wide

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p><b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II.E) The wood pellet manufacturing process is limited to a maximum production rate of 660,000 ODT/year. The owner/operator must record the actual dried wood pellet throughput on a monthly basis and a twelve month rolling sum shall be calculated for total dried wood pellet throughput. The twelve-month rolling sum shall not exceed 660,000 ODT/year. Reports of the monthly throughput and the twelve-month rolling sum calculated for each month in the reporting period, shall be submitted semi-annually.</p> <p>Production rates shall be adjusted anytime as necessary to stay below all facility wide limits if source testing results in higher emission factors.</p>
C.9	<p><b>Equipment ID:</b> Facility-Wide <b>Control Device ID:</b> All</p> <p>Bypassing of any stack is not permitted except during emergencies or mechanical failures or malfunctions. Exceptions include periods of Furnace Cold Start-Up and Furnace Idle in which case the Furnace Bypass Stack S15 may be utilized. All occurrences in which a stack is bypassed shall be corrected in a timely manner. Any occurrence shall be documented in written logs or electronically and maintained on-site in a permanent format suitable for inspection by Department personnel. The documentation shall include date, duration, cause and corrective action of the occurrence. Emissions during Furnace Cold Start-Up and Furnace idle Mode shall be calculated and included in the monthly and facility-wide 12-month rolling sum emissions totals. The type and quantity of emissions which occur during any occurrence shall be included in the emissions reports which are submitted semi-annually. If there are no occurrences during the reporting period the semi-annual emissions report shall indicate such.</p>
C.10	<p><b>Equipment ID:</b> Facility-Wide <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section X; S.C. Regulation 61-62.6) The owner/operator shall continue to implement the current Best Management Practices Plan for dust control at the site. The current plan shall be reviewed and re-assessed. The re-assessed plan shall be submitted to the Director of the Air Permitting Division, for review and approval, within 180 days of issuance of this permit. The plan shall include the following:</p> <ol style="list-style-type: none"> <li>1. Dust control methods for roadways, railcar and truck operations. Frequency of observations for storage piles shall be included.</li> <li>2. Designated dust control methods for each specific material handled. Frequency of control should be included where appropriate.</li> <li>3. A maintenance schedule for all dust control equipment as well as a minimum inventory of spare parts.</li> </ol>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions								
	<ol style="list-style-type: none"> <li>4. Written procedures for all dust control equipment and systems. These procedures shall be based on the manufacturer’s recommendations when available, at a minimum.</li> <li>5. Training plans for the dust control methods, equipment, and systems.</li> <li>6. Modifications and/or contingency plans required for changing weather conditions, failure of equipment, electrical power failure, and any other factors that may influence the effectiveness of control methods.</li> <li>7. Steps to mitigate fugitive particulate matter generated on site from moving beyond facility property boundaries.</li> <li>8. Method to document plan requirement execution.</li> <li>9. Schedule for the periodic review and update of the plan.</li> </ol> <p>The facility shall update the Best Management Practices Plan if the Department or the facility determines additional control measures are needed or current dust control measures need modification. A log of any updates made to the plan as well as the updated plan shall be submitted semiannually to the Director of the Air Permitting Division for Department approval. The log shall include the basis for each update made to the plan. If no changes to the plan occurred during the reporting period, then a letter shall indicate such. The plan, logs demonstrating execution of the plan, and any updates made to the plan shall be recorded in a suitable permanent form, maintained on-site, and made available for inspection by Department personnel upon request.</p>								
C.11	<p><b>Equipment ID:</b> E6-E9, E58, E10; E11-E12; E59-E94; E20-E39, E49-E52  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II.E); (S.C. Regulation 61-62.1, Section IV - Source Tests)</p> <p>To verify PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions, and to ensure continuing compliance with the existing facility-wide synthetic minor emission limits for PSD Avoidance (PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC &lt; 250.0 tpy each pollutant) and major HAP source Avoidance (facility-wide HAPs &lt; 10.0/25.0 tpy), a source test shall be conducted within 180 days after project completion and the startup of new and modified equipment. With the exception of CO and NO<sub>x</sub>, subsequent source tests shall be conducted annually and be completed no later than twelve (12) months after the previous source test. Subsequent source tests for CO and NO<sub>x</sub> shall be conducted every 5 years and completed no later than sixty (60) months after the previous source test.</p> <table border="1" data-bbox="285 1635 1520 1778"> <thead> <tr> <th data-bbox="285 1635 436 1778">EU ID</th> <th data-bbox="436 1635 807 1778">Source</th> <th data-bbox="807 1635 953 1778">Testing Location (Emission Point ID)</th> <th data-bbox="953 1635 1520 1778">Pollutants</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	EU ID	Source	Testing Location (Emission Point ID)	Pollutants				
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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions		
E6-E9, E58, E10, E11, E12, E59-E94	Green Hammermills, Green Chip Silo, Furnace, Dryers, Dry Hammermills	S1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC, CO, NO <sub>x</sub> , Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde
E20-E31	Pelletizers 1 – 9, Pellet Coolers 1 - 3	S5	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC, CO, NO <sub>x</sub> , Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde
E32 – E39, E49 – E52	Pelletizers 10 – 18, Pellet Coolers 4 – 6	S6	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC, CO, NO <sub>x</sub> , Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde

The facility may request that the source tests be conducted less often than annually for a given pollutant if the source tests for at least three (3) consecutive tests indicate facility wide emissions will be less than 85% of the synthetic minor limits. If the request is granted, the facility shall conduct a source test no more than 36 months after the previous source test for the given pollutant. If a subsequent source test indicates facility wide emissions will be greater than 85% of the synthetic minor limits, the facility shall return to conducting annual source tests (no later than 12 months after the previous source test) for that pollutant.

The source test will be used to verify emission rates, to establish and/or re-establish site specific emission factors and, for recording keeping and reporting requirements. Results from the source tests shall be reported in units of pounds per hour (lb/hr), Results from the source test to establish and/or re-establish site-specific emission factors shall be reported in units of pound per oven-dry short ton (lb/ODT) and also in units of (lb/hr).

The owner/operator shall include as a source test monitoring parameter a record of the material throughput ODT/hr of process equipment. For the Baghouses, Cyclofilters, Bin Vent Filters and Dust Silos the facility shall also monitor and record the pressure drop across the control device to establish or re-establish pressure drop ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits. For the Wet Electrostatic Precipitator the facility shall also monitor and record the secondary voltage in kilovolts and current in milliamps for each grid to establish or re-establish operating voltage and current ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits. For the Regenerative Thermal Oxidizer and Regenerative Thermal Oxidizers/Catalytic Oxidizers the facility shall also monitor and record the combustion zone temperature to re-establish operating temperatures needed to ensure compliance with VOC emission limits.

An emission factor for each pollutant tested shall be derived from the source test results as follows:

EF in lb/ODT (short tons) = the average measured emission rate (lb/hr) for each pollutant / average wood material throughput (ODT/hr)

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>The owner/operator shall use the initial emission factors identified in the Statement of Basis for this permit, until new emission factors that are developed from subsequent source testing have been approved to use.</p> <p>The owner/operator may request approval to re-establish emission factors based on stack test results. However, if any source testing subsequent to this approval results in a higher emission factor than the approved emission factor, the owner/operator shall recalculate facility wide emissions dating back to the calendar year the emission factor was approved. Recalculated emissions shall be submitted to the Department within 30 days after receipt of test results.</p>
C.12	<p><b>Equipment ID:</b> E6-E9, E58, E10; E11-E12; E59-E94; E20-E39, E49-E52  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall calculate VOC emissions including formaldehyde and methanol emissions using the EPA OTM-26 (also referred to as Wood Products Protocol WPP1) algorithm below for sources subject to source testing requirements:</p> <p>VOC = [Method 25A VOC as propane + Methanol as methanol + Formaldehyde as formaldehyde] - [(0.65)Methanol as propane]</p>
C.13	<p><b>Equipment ID:</b> Dryer Duct Burner (E48)  <b>Control Device ID:</b> None</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section I) The fuel burning source(s) shall not discharge into the ambient air smoke which exceeds opacity of 20%. The owner/operator shall, to the extent practicable, maintain and operate any source including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. Because this source is limited to combusting natural gas, compliance is assured.</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section II) The maximum allowable discharge of particulate matter resulting from this source is 0.6 pounds per million BTU input.</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section III) The maximum allowable discharge of sulfur dioxide (SO<sub>2</sub>) resulting from this source is 2.3 pounds per million BTU input.</p> <p>This source is permitted to burn only natural gas as fuel. The use of any other substances as fuel is prohibited without prior written approval from the Department.</p>
C.14	<p><b>Equipment ID:</b> E6-E12, E58, E59-E94, E20-E39, E49-E52  <b>Control Device ID:</b> CD3, CD15, CD19</p> <p>(S.C. Regulation 61-62.5, Standard No. 3, Section III.I.1) Emissions from CD3, CD15, and CD19 shall not exhibit an opacity greater than 20% (each).</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>(S.C. Regulation 61-62.5, Standard No.3, Section III.I.2) Particulate matter emissions from CD3, CD15, and CD19 shall not exceed 0.5 lb/10<sup>6</sup> Btu total heat input. The total heat input value from waste and virgin fuel used for production shall not exceed the Btus used to affect the combustion of the waste and shall not include any Btu input from auxiliary burners located outside of the primary combustion chamber such as those found in secondary combustion chambers, tertiary combustion chambers or afterburners unless those auxiliary burners are fired with waste. In the case where waste is fired in the auxiliary burners located outside of the primary combustion chamber, only the Btu value of the fuel for the auxiliary burner which is from waste shall be added to the total heat input value.</p> <p>The permittee shall perform a visual inspection on a weekly basis. Visual Inspection means a qualitative observation of opacity during daylight hours where the inspector records results in a log, noting color, duration, density (heavy or light), cause and corrective action taken for any abnormal emissions. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water. Logs shall be kept to record all visual inspections, including cause and corrective action taken for any abnormal emissions and visual inspections from date of recording. The owner/operator shall submit reports of these logs. If there are no incidences, a letter should be submitted semi-annually stating such.</p> <p>The CD3, CD15 and CD19 control devices are permitted to burn only natural gas as fuel. The use of any other substances as fuel is prohibited without prior written approval from the Department.</p>
C.15	<p><b>Equipment ID:</b> Furnace (E11)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>Except as specified for a Furnace Cold Start-Up, the 200 million Btu/hr furnace is permitted to burn only clean untreated bark/hog fuel (i.e. wood chips, fines, sawdust), as fuel. In accordance with SC Regulation 61-62.1 Clean Wood is defined as untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include yard waste, which is defined elsewhere in SC Regulation 61-62.1, or construction, renovation, and demolition waste (including but not limited to railroad ties and telephone poles). The use of any other substances as fuel is prohibited without prior written approval from the Department.</p>
C.16	<p><b>Equipment ID:</b> Furnace (E11), Dryer (E12), Vertical Dry Hammermills (E59-E94)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3); Bin Vent 3 (CD24)</p> <p>Within 180 days after the issuance of this construction permit the owner/operator shall submit to the Director of the Air Permitting Division a written notification specifying which operational design will be constructed for the Vertical Dryer Hammermills according to i. or ii. or iii. as follows:</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<ul style="list-style-type: none"> <li>i. Exhaust stream proceeds to the new bin vent filter [Bin Vent Filter 3 (CD24)] followed by new safety water quench duct and then proceeding to the existing dryer furnace (E11) and then proceeding to the existing WESP (CD2) and RTO1 (CD3) or;</li> <li>ii. Exhaust stream proceeds to the new safety water quench duct and then proceeding to the existing WESP (CD2) and then proceeding to the existing RTO1 (CD3) or;</li> <li>iii. Exhaust stream consisting of a combination of the two routing options ( i and ii ).</li> </ul>
C.17	<p><b>Equipment ID:</b> Furnace (E11), Rotary Dryer (E12)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>The owner/operator shall develop and implement written Best Management Practices Procedures which address startup, shutdown, malfunction and Furnace Idle Mode periods. The procedures shall describe, in detail, procedures for operating and maintaining the sources during periods of startup, shutdown, malfunction and Idle Mode and a program of corrective action for malfunctioning processes, air pollution control equipment, and monitoring equipment used to comply with the applicable requirements contained within this permit. The work practice procedures shall be submitted to the Director of the Air Permitting Division for review and approval within 180 days of issuance of this permit. A log of any updates made to the procedures as well as the updated procedures shall be submitted semi-annually to the Director of the Air Permitting Division for approval. The log shall include the basis for each update made to the procedure. If no changes to the procedure occurred during the reporting period, then a letter shall indicate such. The procedures, logs demonstrating execution of the procedures, and any updates made to the procedure shall be recorded in a suitable permanent form, maintained on-site, and made available for inspection by Department personnel upon request.</p>
C.18	<p><b>Equipment ID:</b> Furnace (E11)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from this source (including fugitive emissions) shall not exhibit an opacity greater than 20%.</p> <p><u>Furnace Bypass Stack (S15) - Cold Start-Ups</u>            Use of the furnace bypass stack during a furnace cold start-up period, shall not exceed eight (8) hours per cold start-up and fifty (50) hours per year, total. A cold startup period shall be defined as the time in which the furnace is initially started up (from a cold shut-down) and continues until the furnace's secondary combustion zone temperature reaches 600 °F or eight (8) hours, whichever is less time. During cold start-ups, the heat input rate of the furnace shall not exceed 15% of the maximum heat input rate of the furnace (shall not exceed 30 MM Btu /hr).</p> <p>Diesel fuel may be used as an accelerant for cold start-ups. The quantity of diesel fuel utilized shall not exceed (15-30) gallons for each Furnace Cold Start-Up and shall not exceed (100-200) gallons per year.</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>The owner/operator shall record the following:</p> <ol style="list-style-type: none"> <li>I. Date, start and end time of each Furnace Cold Start-Up.</li> <li>II. Yearly total hours of Furnace Cold Start-Ups based on a 12-month rolling sum basis.</li> <li>III. Fuel consumption for each Furnace Cold Start-Up.</li> <li>IV. Monthly and Yearly total fuel consumption based on a 12-month rolling sum basis.</li> </ol> <p>Records of the recorded values, calculated values, monthly and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted semi-annually. If no cold start-ups occurred during the reporting period, the submittal shall state, thusly. Emissions from the Furnace Bypass stack during Furnace Cold Start-Up shall be calculated and included in the monthly and facility-wide 12-month rolling sum emissions totals.</p> <p>The owner/operator shall utilize Best Management Practices to minimize emissions to the maximum extent possible until the Furnace reaches standard operational status. Best Management Practice (BMP) means a practice, or combination of practices, that is determined to be an effective and practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of air pollution generated.</p>
C.19	<p><b>Equipment ID:</b> Furnace (E11)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from this source (including fugitive emissions) shall not exhibit an opacity greater than 20%.</p> <p><u>Furnace Bypass stack (S15)- Idle Mode</u>  The Furnace Idle Mode shall not exceed five-hundred (500) hours per year total, based on a 12-month rolling sum basis. Idle Mode is defined as furnace operation up to a maximum heat input rate of 12 MM Btu/hr when the WESP (CD2) an RTO1 (CD3) are undergoing maintenance or cleaning or when the dryer (E12) system is being repaired or other downstream equipment such as the Dry Hammermill or Pellet Mill Systems(s) are shut down for maintenance or repairs. During this time, emissions may exhaust out of the furnace bypass stack (S15).</p> <p>The owner/operator shall record the following:</p> <ol style="list-style-type: none"> <li>I. Date, start and end time of each Furnace idle Mode period.</li> <li>II. Cause of the Idle Mode and corrective or maintenance actions taken during the Idle Mode period.</li> <li>III. Total duration of Furnace Idle mode period in hours per year based on a 12-month rolling sum basis.</li> <li>IV. Fuel consumption during the Furnace Idle Mode period.</li> </ol> <p>Records of the recorded values, calculated values, monthly and the twelve-month rolling sum,</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
	<p>calculated for each month in the reporting period, shall be submitted semi-annually. If no Idle Mode periods occurred during the reporting period, the submittal shall state, thusly. Emissions from the Furnace Bypass stack during Furnace Idle Mode shall be calculated and included in the monthly and facility-wide 12-month rolling sum emissions totals.</p> <p>The owner/operator shall utilize Best Management Practices to minimize emissions to the maximum extent possible until the Furnace reaches standard operational status. Best Management Practice (BMP) means a practice, or combination of practices, that is determined to be an effective and practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of air pollution generated.</p>
C.20	<p><b>Equipment ID:</b> Rotary Dryer (E12)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from this source (including fugitive emissions) shall not exhibit an opacity greater than 20%.</p> <p><u>Rotary Dryer Bypass Stack</u>            Use of the Rotary Dryer Bypass stack shall be limited to emergencies or mechanical failures or malfunctions.</p> <p>The owner/operator shall maintain an on-site log of any time the bypass stack is opened for any reason. The log shall include start time, end time and reason for opening.</p> <p>The owner/operator shall utilize Best Management Practices to minimize emissions to the maximum extent possible during periods of emergencies or mechanical failures or malfunctions. Best Management Practice (BMP) means a practice, or combination of practices, that is determined to be an effective and practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of air pollution generated.</p>
C.21	<p><b>Equipment ID:</b> Rotary Dryer (E12)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>(S.C. Regulation 61-62.1, Section II.E)</p> <p>Dryer wood chip moisture content shall be within a target range of no less than 6% moisture on a daily average basis. The wood chip moisture content shall be monitored daily (or more frequently as appropriate for the process) and shall be recorded in a written log or electronically. Deviations from the acceptable range, including cause and corrective action taken, shall be submitted semi-annually. If there are no incidences, a letter should be submitted semi-annually stating such.</p> <p>The owner/operator shall install, calibrate, operate and maintain monitoring and recording devices</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>to record equipment process rates, material production rates, material (initial and final) moisture content, equipment drying zone temperatures, and any other parameters necessary which demonstrate that the Dryer and associated equipment are operating in accordance with manufacturer's specification. Records shall be maintained on site and made available to a Department representative upon request.</p>
C.22	<p><b>Equipment ID:</b> E1-E94 <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from these sources (including fugitive emissions) shall not exhibit an opacity greater than 20%, each.</p> <p>The owner/operator shall perform a visual inspection on a weekly basis of stack emissions from S1, S2, S3, S4, S5, S6, S7, S8, and S9 during source operation. The owner/operator shall perform a visual inspection of the stack emissions from S15 daily anytime the bypass stack is used for more than one (1) consecutive hour. Logs shall be kept to record all visual inspections, noting color, duration, density (heavy or light), cause, and corrective action taken for any abnormal emissions. If a source did not operate during the required visual inspection time frame, the log shall indicate such. The owner/operator shall submit semi-annually reports. The report shall include records of abnormal emissions, if any, and corrective actions taken.</p> <p>Visual inspection means a qualitative observation of opacity during daylight hours. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water.</p>
C.23	<p><b>Equipment ID:</b> E1-E5, E46, E47; E6-E9, E58, E10; E11-E13; E59-E94; E20-E39, E49-E52; E40-E43 <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section VIII) Particulate matter emissions shall be limited to the rate specified by use of the following equations:</p> <p style="padding-left: 40px;">For process weight rates less than or equal to 30 tons per hour  <math display="block">E = (F) 4.10P^{0.67} \text{ and}</math></p> <p style="padding-left: 40px;">For process weight rates greater than 30 tons per hour  <math display="block">E = (F) 55.0P^{0.11} - 40</math></p> <p style="padding-left: 40px;">Where E = the allowable emission rate in pounds per hour  P = process weight rate in tons per hour  F = effect factor from Table B in S.C. Regulation 61-62.5, Standard No. 4</p> <p>For the purposes of compliance with this condition, the process boundaries are defined as follows:</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions																																					
		<table border="1"> <thead> <tr> <th data-bbox="509 415 971 485">Process/Equipment IDs</th> <th data-bbox="974 415 1524 485">Max Process Weight Rate (ton/hr)</th> </tr> </thead> <tbody> <tr> <td data-bbox="509 489 971 520">P0/E1-Debarker</td> <td data-bbox="974 489 1524 520">230</td> </tr> <tr> <td data-bbox="509 525 971 556">P0/E2-Electric Powered Chipper</td> <td data-bbox="974 525 1524 556">175</td> </tr> <tr> <td data-bbox="509 560 971 592">P0/E3-Green Wood Screening</td> <td data-bbox="974 560 1524 592">175</td> </tr> <tr> <td data-bbox="509 596 971 627">P0/E4-Pile Drop</td> <td data-bbox="974 596 1524 627">350</td> </tr> <tr> <td data-bbox="509 632 971 663">P0/E5-Storage Pile Wind Erosion</td> <td data-bbox="974 632 1524 663">350</td> </tr> <tr> <td data-bbox="509 667 971 699">P0/E46-Truck Dump 1</td> <td data-bbox="974 667 1524 699">175</td> </tr> <tr> <td data-bbox="509 703 971 735">P0/E47-Truck Dump 2</td> <td data-bbox="974 703 1524 735">175</td> </tr> <tr> <td data-bbox="509 739 971 852">P1/E6-E9, E58, E10 -Green Hammermills, Green Chip Silo, P2/E11-Furnace, P2/E12-Dryer</td> <td data-bbox="974 739 1524 852">435 (total)</td> </tr> <tr> <td data-bbox="509 856 971 888">P2/E11-Furnace Bypass</td> <td data-bbox="974 856 1524 888">85</td> </tr> <tr> <td data-bbox="509 892 971 924">P2/E13-Dry Chip Silo</td> <td data-bbox="974 892 1524 924">85</td> </tr> <tr> <td data-bbox="509 928 971 999">P3/E59-E94-Vertical Dry Hammermill 1 through 36</td> <td data-bbox="974 928 1524 999">96</td> </tr> <tr> <td data-bbox="509 1003 971 1035">P3/E19-Pelletizer Feed Silo</td> <td data-bbox="974 1003 1524 1035">96</td> </tr> <tr> <td data-bbox="509 1039 971 1110">P4/E20-E31 Pelletizers, Pellet Coolers 1-3</td> <td data-bbox="974 1039 1524 1110">48 (total)</td> </tr> <tr> <td data-bbox="509 1115 971 1186">P4/E32-E52 Pelletizers, Pellet Coolers 4-6</td> <td data-bbox="974 1115 1524 1186">48 (total)</td> </tr> <tr> <td data-bbox="509 1190 971 1222">P5/E40-E41 Pellet Silo 1-2</td> <td data-bbox="974 1190 1524 1222">96</td> </tr> <tr> <td data-bbox="509 1226 971 1257">P5/E42-Loadout</td> <td data-bbox="974 1226 1524 1257">150</td> </tr> <tr> <td data-bbox="509 1262 971 1293">P5/E43-Dust Silo</td> <td data-bbox="974 1262 1524 1293">5</td> </tr> </tbody> </table>	Process/Equipment IDs	Max Process Weight Rate (ton/hr)	P0/E1-Debarker	230	P0/E2-Electric Powered Chipper	175	P0/E3-Green Wood Screening	175	P0/E4-Pile Drop	350	P0/E5-Storage Pile Wind Erosion	350	P0/E46-Truck Dump 1	175	P0/E47-Truck Dump 2	175	P1/E6-E9, E58, E10 -Green Hammermills, Green Chip Silo, P2/E11-Furnace, P2/E12-Dryer	435 (total)	P2/E11-Furnace Bypass	85	P2/E13-Dry Chip Silo	85	P3/E59-E94-Vertical Dry Hammermill 1 through 36	96	P3/E19-Pelletizer Feed Silo	96	P4/E20-E31 Pelletizers, Pellet Coolers 1-3	48 (total)	P4/E32-E52 Pelletizers, Pellet Coolers 4-6	48 (total)	P5/E40-E41 Pellet Silo 1-2	96	P5/E42-Loadout	150	P5/E43-Dust Silo	5
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	<p data-bbox="279 1339 678 1371"><b>Wet Electrostatic Precipitator</b></p> <p data-bbox="279 1413 1524 1549">The owner/operator shall install, (continue to) operate and maintain secondary voltage and current meters for each field. Each parameter shall be recorded each shift during source operation. The WESPs shall be in place and operational whenever processes controlled by the WESPs are running, except during periods of WESP malfunction or mechanical failure.</p> <p data-bbox="279 1591 1524 1871">Operational ranges for the monitored parameters shall be reviewed and re-established (if appropriate) to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment. If ranges need to be re-established, these ranges and supporting documentation (certification from manufacturer, stack test results, 30 days of normal readings, opacity readings, etc.) shall be submitted to the Director of the Air Permitting Division and operating ranges may be updated after submittal to, and approval by, the Department.</p>																																					

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
	<p><b>New Baghouse (CD18c), New Bin Vent 3 (CD24)</b></p> <p>Operational ranges for the monitored parameters shall be established to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment. Prior to the first source test, the facility shall use manufacturer's recommendations for operational ranges. The manufacturer's recommendations must be maintained on site. These ranges and supporting documentation (certification from manufacturer, stack test results, 30 days of normal readings, opacity readings, etc.) shall be submitted to the Director of the Air Permitting Division within 180 days of when the final test report due. Operating ranges may be updated following submittal to, and approval by, the Department.</p> <p><b>Baghouses/Cyclofilters/Multiclones/Bin Vents</b></p> <p>The owner/operator shall install, (continue to) operate, and maintain pressure drop gauges on each module of the Baghouses/Cyclofilters/Multiclones/Bin Vents. Pressure drop readings for these devices shall be recorded each shift during source operation. Operation and maintenance checks shall be made on at least a monthly basis for cleaning systems, dust collection hoppers and conveying systems for proper operation. The Baghouses/Cyclofilters/Multiclones/Bin Vents shall be in place and operational whenever processes controlled by these devices are running, except during periods of device malfunction or mechanical failure.</p> <p>Operational ranges for the monitored parameters shall be reviewed and re-established (if appropriate) to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment. If ranges need to be re-established, these ranges and supporting documentation (certification from manufacturer, stack test results, 30 days of normal readings, opacity readings, etc.) shall be submitted to the Director of the Air Permitting Division and operating ranges may be updated following submittal to, and approval by, the Department.</p> <p><b>Cyclone 6 (CD21)</b></p> <p>The cyclone shall be in place and operational whenever processes controlled by the cyclone are running, except during periods of cyclone malfunction or mechanical failure. The following operation and maintenance checks will be made on at least a weekly basis for the cyclone:</p> <ol style="list-style-type: none"><li>i. Check the cyclone and ductwork system for damaged or worn sheet metal or other interferences with proper operation.</li></ol>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<ul style="list-style-type: none"> <li>ii. Check dust collection hoppers and conveying systems for proper operation.</li> <li>iii. The results from the operation and maintenance checks shall be maintained in logs (written or electronic), along with any corrective action taken.</li> </ul>
C.24	<p><b>Equipment ID:</b> E6-E12, E59-E94, E20-E39, E49-E52  <b>Control Device ID:</b> CD3, CD15, CD19</p> <p><b>Regenerative Thermal Oxidizers</b></p> <p>The owner/operator shall install, continue to operate, and maintain combustion zone temperature indicators on each Regenerative Thermal Oxidizer. The owner/operator shall maintain the 3-hour block average combustion chamber temperature above the minimum temperature established during the performance test. Temperature readings shall be recorded at least every fifteen (15) minutes during source operation for each Regenerative Thermal Oxidizer. Maintenance checks for proper temperature indicator operation shall be made on at least a monthly basis. Each Regenerative Thermal Oxidizer shall be in place and operational whenever processes controlled by it are running, except during periods of Regenerative Thermal Oxidizer malfunction or mechanical failure.</p> <p>Operational ranges for the monitored parameters shall be reviewed and re-established (if appropriate) to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment. If ranges need to be re-established, these ranges and supporting documentation (certification from manufacturer, stack test results, 30 days of normal readings, opacity readings, etc.) shall be submitted to the Director of the Air Permitting Division and operating ranges may be updated following submittal to, and approval by, the Department.</p> <p><b>Regenerative Catalytic Oxidizers</b></p> <p>The owner/operator shall install and continue to operate and maintain temperature indicators across each combustion chamber on each incinerator during source operation. Temperature readings shall be recorded at least every 15 minutes and maintained on site. The owner/operator shall also check the activity level of a representative sample of the catalyst at least every 16 months. Each catalytic incinerator shall be in place and operational whenever processes controlled by it are running, except during periods of catalytic incinerator malfunction or mechanical failure.</p> <p>Operational ranges for the monitored parameters shall be reviewed and re-established (if appropriate) to ensure proper operation of the pollution control equipment. These operational ranges for the monitored parameters shall be derived from stack test data, vendor certification, and/or operational history and visual inspections, which demonstrate the proper operation of the equipment. If ranges need to be re-established, these ranges and supporting documentation (certification from manufacturer, stack test results, 30 days of normal readings, opacity readings, etc.)</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	shall be submitted to the Director of the Air Permitting Division and operating ranges may be updated following submittal to, and approval by, the Department.
C.25	<p><b>Equipment ID:</b> E6-E9, E58, E10; E11-E13; E59-E94; E20-E39, E49-E52; E40-E43  <b>Control Device ID:</b> CD2, CD3, CD14a-c, CD15, CD18a-c, CD19, CD 21, CD22, CD23, CD24</p> <p>(S.C. Regulation 61-62.1, Section II.E)</p> <p>To ensure continued compliance, the owner/operator shall perform inspections and maintenance on the above specified control devices (WESP, RTO1, RTO/RCO's, Baghouses, Bin Vent, Cyclone 6, Cyclofilter), as recommended by the manufacturer. If there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirements shall include the following:</p> <p><u>Baghouses, Cyclofilters, Bin Vent</u></p> <ul style="list-style-type: none"> <li>i. Monthly visual inspection of the system ductwork and material collection units for leaks;</li> <li>ii. The owner/operator shall perform an annual internal inspection of the Baghouses, Cyclofilters, and Bin Vent structural integrity. Annual internal inspections shall be completed no later than sixteen (16) months from the previous inspection.</li> </ul> <p><u>Wet Electrostatic Precipitator, Regenerative Thermal Oxidizer, Regenerative Thermal Oxidizer (RTO) / Regenerative Catalytic Oxidizer (RCO)</u></p> <ul style="list-style-type: none"> <li>i. Monthly visual inspection of the system ductwork and material collection units for leaks;</li> <li>ii. The owner/operator shall perform an Annual internal inspection of the heat transfer medium, or catalyst as applicable to the RCO's and associated inlet/outlet valves. Annual inspections shall be completed no later than sixteen (16) months from the previous inspection. This inspection must include (but is not limited to) the following: <ul style="list-style-type: none"> <li>a) Visual checks of critical components</li> <li>b) Checks for any equipment that does not alarm when de-energized, to ensure it is operational</li> <li>c) Checks for signs of plugging in the hopper and gas distribution equipment, and replacement of broken equipment as required.</li> </ul> </li> </ul> <p>The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to a Department representative upon request. The logbook shall record the following:</p> <ul style="list-style-type: none"> <li>a) The date and time of each recorded action</li> <li>b) The results of each inspection</li> <li>c) The results of any maintenance performed on the control device</li> <li>d) Any variance from manufacturer's recommendations, if any, and corrections made.</li> </ul>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>The owner/operator shall maintain the inspection and maintenance records on-site and the records shall be made available to Department representatives upon request.</p> <p>All instances of deviations from the requirements of this permit must be clearly identified and recorded. The owner/operator shall submit semi-annually reports of any deviations from the inspection and maintenance activities which have been herein specified.</p>
C.26	<p><b>Equipment ID:</b> E1-E5; E46-E47  <b>Control Device ID:</b> None</p> <p>In accordance with S.C. Regulation 61-62.5, Standard No. 4 - Emissions from Process Industries, Section X - Non-Enclosed Operations:</p> <p>(a) All non-enclosed operations shall be conducted in such a manner that a minimum of particulate matter becomes airborne. In no case shall established ambient air quality standards be exceeded at or beyond the property line.</p> <p>(b) The owner/operator of all such operations shall maintain dust control of the premises and any roadway owned or controlled by the owner/operator by paving, or other suitable measures. Oil treatment is prohibited.</p> <p>(c) All crushing, drying, classification and like operations shall employ a suitable control device acceptable to the Department, and shall discharge no more particulate matter than that specified in Section VIII of this Standard.</p> <p>In accordance with S.C. Regulation 61-62.6 - Control of Fugitive Particulate Matter, Section III - Control of Fugitive Particulate Matter Statewide:</p> <p>(a) Emissions of fugitive particulate matter shall be controlled in such a manner and to the degree that it does not create an undesirable level of air pollution.</p> <p>(b) Restrictions and requirements may be contained in operating permits on a case-by-case basis that are deemed appropriate and necessary to control fugitive particulate matter in accordance with reasonably available control technology.</p>
C.27	<p><b>Equipment ID:</b> Furnace (E11)  <b>Control Device ID:</b> WESP (CD2); RTO1 (CD3)</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section V) The allowable discharge of NO<sub>x</sub> resulting from this source is low NO<sub>x</sub> burners or equivalent technology capable of achieving 30% reduction from uncontrolled levels (30% reduction from uncontrolled levels = 31.57 lb/hr).</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section VII)</p> <p>The owner or operator shall perform tune-ups every twenty-four (24) months in accordance with manufacturer's specifications or with good engineering practices. The first tune-up shall be</p>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
	<p>conducted no more than twenty-four (24) months from replacement of a burner assembly for affected existing sources. Each subsequent tune-up shall be conducted no more than twenty-four (24) months after the previous tune-up.</p> <p>All tune-up records are required to be maintained on site and available for inspection by the Department for a period of five (5) years from the date generated.</p> <p>The owner or operator shall develop and retain a tune-up plan on file.</p> <p>The owner or operator shall record monthly the amounts and types of each fuel combusted by the affected sources and maintain these records on site.</p> <p>The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected source; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.</p>
C.28	<p><b>Equipment ID:</b> E19-E43; E49-E52  <b>Control Device ID:</b> CD14a-c; CD15; CD18a-c; CD19</p> <p>Pelletizers and Pellet Coolers, Loadout - Good Operating and Maintenance Practices</p> <p>An Operation and Maintenance (O &amp; M) plan shall be implemented and submitted to the Director of the Air Permitting Division for review and approval within 180 days of issuance of this permit. A log of any updates made to the O &amp; M procedures as well as the updated procedures shall be submitted semi-annually to the Director of the Air Permitting Division for approval. The log shall include the basis for each update made to the procedure. If no changes to the procedure occurred during the reporting period, then a letter shall indicate such. The procedures, logs demonstrating execution of the procedures, and any updates made to the procedure shall be recorded in a suitable permanent form, maintained on-site, and made available for inspection by Department personnel upon request. At a minimum the (O &amp; M) plan shall include the following:</p> <ul style="list-style-type: none"> <li>i. A schedule for the proper maintenance, operation, calibration of monitoring, recording, computer controllers, and associated devices to ensure proper process rate/ process throughput, proper process control and, proper reporting.</li> <li>ii. Logs containing scheduled repairs and maintenance performed to ensure proper operation.</li> <li>iii. Methods to ensure proper operating speed, production rate, product moisture content, air flow, etc. to ensure emissions are minimized.</li> <li>iv. Methods to ensure the equipment is operating in accordance with manufacturer</li> </ul>

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**C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS**

Condition Number	Conditions
	<p>specifications.</p> <p>v. Methods for minimizing fugitive emissions through proper maintenance procedures.</p> <p>vi. Methods for minimizing emissions during start-up, shutdown and malfunctions.</p> <p>vii. Inspection checks of collection hoppers and conveying systems, ductwork systems for damaged or worn parts or other interferences with proper operation.</p> <p>viii. Inspection checks of air-venting motors, for leaks at fittings, coil units, hand valves, control valves, traps, check valves, strainers, bearing bolts on fans motor/fan drive belts.</p>
C.29	<p><b>Equipment ID:</b> E44; E45  <b>Control Device ID:</b> None</p> <p>These sources are subject to New Source Performance Standards (NSPS), 40 CFR 60 Subpart A, General Provisions and Subpart IIII, Standards Of Performance For Stationary Compression Ignition Internal Combustion Engines, and S.C. Regulation 61-62.60 Subparts A and IIII, Standards Of Performance For Stationary Compression Ignition Internal Combustion Engines, as applicable. These source(s) shall comply with all applicable requirements of Subparts A and IIII.</p>
C.30	<p>The facility shall be limited to the current permitted production rate of 521,000 ODT/year until all control device upgrades and additions as allowed under this construction permit have been completed. The facility shall notify the Bureau upon completion and prior to increasing the production rate.</p>

**D. NESHAP PERIODIC REPORTING SCHEDULE SUMMARY**

NESHAP Part	NESHAP Subpart	Compliance Monitoring Report Submittal Frequency	Reporting Period	Report Due Date
63	ZZZZ (Emergency Engines see note 3 and 4)	N/A	N/A	N/A

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1. This table summarizes only the periodic compliance reporting schedule. Additional reports may be required. See specific NESHAP Subpart for additional reporting requirements and associated schedule.
2. This reporting schedule does not supersede any other reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, 40 CFR Part 63, and/or Title V. The MACT reporting schedule may be adjusted to coincide with the Title V reporting schedule with prior approval from the Department in accordance with 40 CFR 63.10(a)(5). This request may be made 1 year after the compliance date for the associated MACT standard.
3. Facilities with emergency engines are not required to submit reports. Only facilities with non-certified, non-emergency engines are required to submit semiannual reports.
4. Facilities with emergency engines shall comply with the operations limits specified in 40 CFR 63.6640(f).

## E. NESHAP - CONDITIONS

Condition Number	Conditions
E.1	All NESHAP notifications and reports shall be sent to the Manager of the Air Toxics Section, South Carolina Department of Health and Environmental Control - Bureau of Air Quality.
E.2	All NESHAP notifications and the cover letter to periodic reports shall be sent to the United States Environmental Protection Agency (US EPA) at the following address or electronically as required by the specific subpart:  <b>US EPA, Region 4 Air, Pesticides and Toxics Management Division 61 Forsyth Street SW Atlanta, GA 30303</b>
E.3	Emergency power generators less than or equal to 150 kilowatt (kW) rated capacity or greater than 150 kW rated capacity designated for emergency use only and operated a total of 500 hours per year or less for testing and maintenance with a method to record the actual hours of use such as an hour meter have been determined to be exempt from construction permitting requirements in accordance with South Carolina Regulation 61-62.1. These sources shall still comply with the requirements of all applicable regulations including but not limited to the following:  New Source Performance Standards (NSPS) 40 CFR 60 Subpart A (General Provisions); NSPS 40 CFR 60 Subpart IIII (Stationary Compression Ignition Internal Combustion Engines); NSPS 40 CFR 60 Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines); National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart A (General Provisions); and NESHAP 40 CFR 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).

## F. AMBIENT AIR STANDARDS REQUIREMENTS

Condition Number	Conditions
F.1	Air dispersion modeling (or other method) has demonstrated that this facility's operation will not

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**F. AMBIENT AIR STANDARDS REQUIREMENTS**

Condition Number	Conditions
	<p>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. The emission rates used in the determination are listed in Attachment - Emission Rates for Ambient Air Standards of this permit. Higher emission rates may be administratively incorporated into Attachment - Emission Rates for Ambient Air Standards of this permit provided a demonstration using these higher emission rates shows the attainment and maintenance of any state or federal ambient air quality standard or with any other applicable requirement. 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/operator shall maintain this facility at or below the emission rates as listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations in the body of this permit, it may do so by the administrative process specified above. This is a State Only enforceable requirement.</p>

**G. PERIODIC REPORTING SCHEDULE**

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the startup date of the source)	Report Due Date
Quarterly	January-March April-June July-September October-December	April 30 July 30 October 30 January 30
Semiannual	January-June April-September July-December October-March	July 30 October 30 January 30 April 30
Annual	January-December April-March July-June October-September	January 30 April 30 July 30 October 30

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**G. PERIODIC REPORTING SCHEDULE**

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the startup date of the source)	Report Due Date
<p>Note: This reporting schedule does not supersede any federal reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, and 40 CFR Part 63. All federal reports must meet the reporting time frames specified in the federal standard unless the Department or EPA approves a change.</p>		

**H. REPORTING CONDITIONS**

Condition Number	Conditions
H.1	Reporting required in this permit shall be submitted in a timely manner as directed in the Periodic Reporting Schedule of this permit.
H.2	<p>All reports and notifications required under this permit shall be submitted to the person indicated in the specific condition at the following address:</p> <p align="center"><b>2600 Bull Street Columbia, SC 29201</b></p> <p>The contact information for the local Environmental Affairs Regional office can be found at:</p> <p align="center"><b><a href="http://www.scdhec.gov">http://www.scdhec.gov</a></b></p>
H.3	The owner/operator shall submit written notification to the Director of Air Permitting of the date construction is commenced, postmarked within 30 days after such date.
H.4	Unless elsewhere specified within this permit, all reports required under this permit shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality.
H.5	<p>(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:</p> <ol style="list-style-type: none"> <li>1. The identity of the stack and/or emission point where the excess emissions occurred;</li> <li>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;</li> <li>3. The time and duration of excess emissions;</li> <li>4. The identity of the equipment causing the excess emissions;</li> <li>5. The nature and cause of such excess emissions;</li> <li>6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction;</li> <li>7. The steps taken to limit the excess emissions; and,</li> <li>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</li> </ol>

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## H. REPORTING CONDITIONS

Condition Number	Conditions
	<p>consistent with good practice for minimizing emissions.</p> <p>The initial twenty-four (24) hour notification should be made to the Department's local Environmental Affairs Regional office.</p> <p>The written report should be sent to the Manager of the Technical Management Section, Bureau of Air Quality and the local Environmental Affairs Regional office.</p>

## I. PERMIT EXPIRATION AND EXTENSION

Condition Number	Conditions
I.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> <ul style="list-style-type: none"><li>a. is not commenced within 18 months after receipt of such approval;</li><li>b. is discontinued for a period of 18 months or more; or</li><li>c. is not completed within a reasonable time as deemed by the Department.</li></ul> <p>The Department may extend the construction permit for an additional 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>

## J. PERMIT TO OPERATE

Condition Number	Conditions
J.1	<p>(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.</p>
J.2	<p>(S.C. Regulation 61-62.1 Section II(F)(3)) When a Department issued construction permit includes engineering and/or construction specifications, the owner/operator or professional engineer in charge of the project shall certify that, to the best of his/her knowledge and belief and as a result of periodic observation during construction, the construction under application has been completed in</p>

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**J. PERMIT TO OPERATE**

<b>Condition Number</b>	<b>Conditions</b>
	accordance with the specifications agreed upon in the construction permit issued by the Department. If construction is certified as provided above, 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. If construction is not built as specified in the permit application and associated construction permit(s), the owner/operator must submit to the Department a complete description of modifications that are at variance with the documentation of the construction permitting determination prior to commencing operation. Construction variances that would trigger additional requirements that have not been addressed prior to start of operation shall be considered construction without a permit.
J.3	(S.C. Regulation 61-62.1, Section II(F)(4)(b)) The owner or operator shall submit a written request to the Director of Air Permitting for a new or revised operating permit to cover any new or altered source postmarked within fifteen (15) days after the actual date of initial startup of each new or altered source.
J.4	(S.C. Regulation 61-62.1, Section II(F)(4)(c)) The written request for a new or revised operating permit must include, at a minimum, the following information: i. A list of sources that were placed into operation; and ii. The actual date of initial startup of each new or altered source.
J.5	(S.C. Regulation 61-62.70.5(a)) The owner or operator shall submit a timely and complete Part 70 permit application within 12 months of <b>startup/permit issuance</b> .

**K. GENERAL CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
K.1	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.

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**K. GENERAL CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
K.2	<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"><li>1. An emergency occurred, and the owner or operator can identify the cause(s) of the emergency;</li><li>2. The permitted source was at the time the emergency occurred being properly operated;</li><li>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</li><li>4. The owner or operator gave a verbal notification of the emergency to the Department within 24 hours of the time when emission limitations were exceeded, followed by a written report within 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.</li></ol> <p>This provision is in addition to any emergency or upset provision contained in any applicable requirement.</p>
K.3	<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"><li>1. Enter the facility where emissions-related activity is conducted, or where records must be kept under the conditions of the permit.</li><li>2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.</li><li>3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.</li><li>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.</li></ol>
K.4	<p>(S.C. Regulation 61-62.1, Section II(J)(1)(a)) No applicable law, regulation, or standard will be contravened.</p>
K.5	<p>(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 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.</p>

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**L. EMISSIONS INVENTORY REPORTS**

<b>Condition Number</b>	<b>Conditions</b>
L.1	<p>Any existing sources that are newly identified as Title V sources and/or Non-attainment Area Sources shall complete and submit an emissions inventory consistent with the schedule approved pursuant to S.C. Regulation 61-62.1, Section III. These Emissions Inventory Reports shall be submitted to the Manager of the Emissions Inventory Section, Bureau of Air Quality.</p> <p>This requirement notwithstanding, an emissions inventory may be required at any time in order to determine the compliance status of any facility.</p>

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## ATTACHMENT - Emission Rates for Ambient Air Standards

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The emission rates listed herein are not considered enforceable limitations but are used to evaluate ambient air quality impact. Until the Department makes a determination that a facility is causing or contributing to an exceedance of a state or federal ambient air quality standard, increases to these emission rates are not in themselves considered violations of these ambient air quality standards (see Ambient Air Standards Requirements).

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS EMISSION RATES (LB/HR)							
Emission Point ID	PM <sub>10</sub>	PM <sub>2.5</sub>		SO <sub>2</sub>	NO <sub>x</sub>	CO	Lead
		24-Hr	Annual				
S1	17.628	17.628	17.628	5.000	25.784	13.818	--
S5	1.157	--	--	--	--	4.844	--
S6	1.196	--	--	--	--	4.844	--
S15	FBYP1_F	7.770	6.720	0.077	0.752	6.800	18.050
	FBYP1_I	6.204	5.364	5.364	0.300	2.640	7.200

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS EMISSION RATES (LB/HR)							
Emission Point ID	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	Lead	
S0	Chipping	0.84	0.84	--	--	--	--
	Debarking	0.07	0.01	--	--	--	--
	Pile Drop	6.16E-03	9.33E-04	--	--	--	--
	Pile Erosion	0.32	0.05	--	--	--	--
	Roads - Paved	0.10	0.02	--	--	--	--
	Roads - Unpaved	1.80	0.18	--	--	--	--
	Screening	0.33	0.33	--	--	--	--
	Truck Dump 1	2.78E-03	4.21E-04	--	--	--	--
	Truck Dump 2	2.78E-03	4.21E-04	--	--	--	--
S1	--	--	--	--	--	7.12E-04	
S2	0.17	0.17	--	--	--	--	
S4	0.17	0.17	--	--	--	--	
S5	--	0.69	3.06E-03	0.82	--	2.55E-06	
S6	--	0.69	6.12E-03	0.82	--	5.10E-06	
S7	0.17	0.17	--	--	--	--	
S8	0.99	0.99	--	--	--	--	
S9	0.28	0.28	--	--	--	--	
S15	--	--	--	--	--	2.03E-03	

**ATTACHMENT - Emission Rates for Ambient Air Standards**

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<b>STANDARD NO. 8 - TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>					
<b>Table 1 of 4</b>					
<b>Emission Point ID</b>	<b>Acetaldehyde</b>	<b>Acrolein</b>	<b>Arsenic</b>	<b>Beryllium</b>	
	<b>75-07-0</b>	<b>107-02-8</b>	<b>7440-38-2</b>	<b>7440-41-7</b>	
S1	0.734	0.504	3.25E-04	1.63E-05	
S5	7.62E-02	0.113	1.02E-06	6.12E-08	
S6	7.62E-02	0.113	2.04E-06	1.22E-07	
S15	FBYP1_F	2.49E-02	0.120	6.66E-04	3.72E-05
	FBYP1_I	9.96E-03	0.048	2.64E-04	1.32E-05

<b>STANDARD NO. 8 - TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>					
<b>Table 2 of 4</b>					
<b>Emission Point ID</b>	<b>Cadmium</b>	<b>Chlorine</b>	<b>Cobalt Compounds</b>	<b>Formaldehyde</b>	
	<b>7440-43-9</b>	<b>7782-50-5</b>	<b>N/A</b>	<b>50-00-0</b>	
S1	9.40E-05	0.158	9.69E-05	0.455	
S2	--	--	--	7.31E-02	
S4	--	--	--	1.13E-03	
S5	5.61E-06	--	4.28E-07	0.289	
S6	1.12E-05	--	8.56E-07	0.289	
S15	FBYP1_F	1.27E-04	2.37E-02	1.95E-04	0.132
	FBYP1_I	4.92E-05	9.48E-03	7.80E-05	5.28E-02

<b>STANDARD NO. 8 - TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>					
<b>Table 3 of 4</b>					
<b>Emission Point ID</b>	<b>Hydrochloric Acid</b>	<b>Manganese Compounds</b>	<b>Mercury</b>	<b>Methanol</b>	
	<b>7647-01-0</b>	<b>N/A</b>	<b>7439-97-6</b>	<b>67-56-1</b>	
S0 (Chipping)	--	--	--	8.75E-02	
S1	0.380	2.32E-02	5.89E-05	0.582	
S2	--	--	--	0.170	
S4	--	--	--	2.62E-03	
S5	--	1.94E-06	1.33E-06	1.36E-02	
S6	--	3.87E-06	2.65E-06	1.36E-02	
S15	FBYP1_F	0.570	4.80E-02	1.09E-04	--
	FBYP1_I	0.228	1.92E-02	4.20E-05	--

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<b>STANDARD NO. 8 - TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 4 of 4</b>				
<b>Emission Point ID</b>	<b>Nickel</b>	<b>Phenol</b>	<b>Phosphorus</b>	<b>--</b>
	<b>7440-02-0</b>	<b>108-95-2</b>	<b>7723-14-0</b>	<b>--</b>
S1	5.44E-04	0.577	3.91E-04	--
S5	1.07E-05	5.72E-02	--	--
S6	2.14E-05	5.72E-02	--	--
S15	FBYP1_F	9.94E-04	1.53E-03	8.10E-04
	FBYP1_I	3.96E-04	6.12E-04	3.24E-04

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 1 of 8</b>				
<b>Emission Point ID</b>	<b>Acetophenone</b>	<b>Antimony Compounds</b>	<b>Benzene</b>	<b>Bis (2-ethylhexyl) phthalate</b>
	<b>98-86-2</b>	<b>N/A</b>	<b>71-43-2</b>	<b>117-81-7</b>
S1	3.20E-08	1.15E-04	4.20E-02	4.70E-07
S5	--	--	1.07E-05	--
S6	--	--	2.14E-05	--
S15	1.34E-07	3.32E-04	2.14E-06	1.97E-06

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 2 of 8</b>				
<b>Emission Point ID</b>	<b>Carbon Tetrachloride</b>	<b>Chlorobenzene</b>	<b>Chloroform</b>	<b>Chromium (+6) Compounds</b>
	<b>56-23-5</b>	<b>108-90-7</b>	<b>67-66-3</b>	<b>N/A</b>
S1	4.50E-04	3.30E-04	2.80E-04	9.47E-05
S5	--	--	--	7.14E-06
S6	--	--	--	1.43E-05
S15	1.89E-03	1.39E-03	--	--

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 3 of 8</b>				
<b>Emission Point ID</b>	<b>p-Dichlorobenzene</b>	<b>2,4-Dinitrophenol</b>	<b>Ethylene Dichloride</b>	<b>Ethyl Benzene</b>
	<b>106-46-7</b>	<b>51-28-5</b>	<b>107-06-2</b>	<b>100-41-4</b>
S1	--	1.80E-06	2.90E-04	3.10E-04
S5	6.12E-06	--	--	--
S6	1.22E-05	--	--	--
S15	--	7.56E-06	1.22E-03	1.30E-03

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<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 4 of 8</b>				
<b>Emission Point ID</b>	<b>Hexane</b>	<b>Methyl Bromide</b>	<b>Methyl Chloride</b>	<b>Methyl Chloroform</b>
	<b>110-54-3</b>	<b>74-83-9</b>	<b>75-09-2</b>	<b>71-55-6</b>
S1	--	1.50E-04	2.30E-04	3.10E-04
S5	9.18E-03	--	--	--
S6	1.84E-02	--	--	--
S15	--	6.30E-04	9.66E-04	1.30E-03

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 5 of 8</b>				
<b>Emission Point ID</b>	<b>Methylene Chloride</b>	<b>Naphthalene</b>	<b>Pentachlorophenol</b>	<b>Polychlorinated Biphenyls</b>
	<b>75-09-2</b>	<b>91-20-3</b>	<b>87-86-5</b>	<b>N/A</b>
S1	2.90E-03	9.70E-04	5.10E-07	8.15E-08
S5	--	3.11E-06	--	--
S6	--	6.22E-06	--	--
S15	--	4.09E-03	2.14E-06	3.42E-07

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 6 of 8</b>				
<b>Emission Point ID</b>	<b>Polycyclic Organic Matter</b>	<b>Propionaldehyde</b>	<b>Propylene Dichloride</b>	<b>Selenium Compounds</b>
	<b>N/A</b>	<b>123-38-6</b>	<b>78-87-5</b>	<b>N/A</b>
S1	1.25E-03	2.66E-01	3.30E-04	4.14E-05
S5	3.56E-06	3.31E-02	--	1.22E-07
S6	7.12E-06	3.31E-02	--	2.45E-07
S15	5.25E-03	2.56E-03	1.39E-03	1.39E-04

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 7 of 8</b>				
<b>Emission Point ID</b>	<b>Styrene</b>	<b>Tetrachlorinated Dibenzo-p-dioxins</b>	<b>Tetrachloroethylene</b>	<b>Toluene</b>
	<b>100-42-5</b>	<b>1746-01-6</b>	<b>127-18-4</b>	<b>108-88-3</b>
S1	1.90E-02	8.60E-11	3.80E-04	4.07E-04
S5	--	--	--	1.73E-05
S6	--	--	--	3.47E-05

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<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 7 of 8</b>				
<b>Emission Point ID</b>	<b>Styrene</b>	<b>Tetrachlorinated Dibenzo-p- dioxins</b>	<b>Tetrachloro- ethylene</b>	<b>Toluene</b>
	<b>100-42-5</b>	<b>1746-01-6</b>	<b>127-18-4</b>	<b>108-88-3</b>
S15	--	3.61E-10	1.60E-03	6.20E-05

<b>STANDARD NO. 8 - DE MINIMIS TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)</b>				
<b>Table 8 of 8</b>				
<b>Emission Point ID</b>	<b>Trichloro- ethylene</b>	<b>2,4,6-Tri- chlorophenol</b>	<b>Vinyl Chloride</b>	<b>Xylene</b>
	<b>79-01-6</b>	<b>88-06-2</b>	<b>75-01-4</b>	<b>1330-20-7</b>
S1	3.00E-04	2.20E-07	1.80E-04	2.50E-04
S15	1.26E-03	9.24E-07	7.56E-04	1.09E-06

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The Algorithms are representative of the process equipment as specified in the permit application and are consistent with previously established emissions reporting for the purpose of ensuring continued compliance with synthetic minor emission limits. The owner/operator shall use the initial emission factors listed in the application and in the Statement of Basis until new emission factors developed from source testing have been approved in writing, by the Department.

Monthly VOC, PM <sub>2.5</sub> and HAP missions for the Green Hammermill, Green Chip Silo, Furnace/Dryer, Vertical Dry Hammermills, Pelletizers/Pellet Coolers
--

Emissions (E) = emission factor (EF) (lb/ODT) X Oven-Dry Tons of wood processed x 1 ton / 2000 lb
---

Monthly PM and PM <sub>10</sub> emissions for the Green Hammermill/Green Chip Silo, Furnace/Dryer, Vertical Dry Hammermills
---

Emissions (E) = emission factor (EF) (lb/ODT) X Oven-Dry Tons of wood processed x 1 ton / 2000 lb
---

Monthly PM emissions for the Pelletizers/Pellet Coolers
---

Emissions (E) = [ Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 60 min/hour / 7,000 gr/lb ] x operating hours x 1 ton / 2000 lb
--

Baghouse flow rate (scfm) and outlet grain loading (gr/scf) are based on equipment vendor recommendations
---

Monthly PM <sub>10</sub> emissions for the Pelletizers/Pellet Coolers
---

Emissions (E) = [ Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 60 min/hour / 7,000 gr/lb ] x operating hours x 1 ton / 2000 lb
--

(PM <sub>10</sub> speciation) PM <sub>10</sub> as a percentage of PM = 26%
--

Baghouse flow rate (scfm) and outlet grain loading (gr/scf) are based on equipment vendor recommendations
---

Monthly PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC and HAP emissions based on Biomass Combustion - Furnace Cold Start-Up
--

Emissions (E) = emission factor (EF) (lb/MMBtu) x Heat Input Capacity (MMBtu/hr) x operating hours x 1 ton / 2,000 lb
---

Criteria pollutant emission factors are based on AP-42, Chapter 1, Section 1.6 - Wood Residue Combustion in Boilers (09/03), Table 1.6-1, for bark/bark and wet wood and are included in Table 5 of Appendix C of the Application. Total PM, Total PM <sub>10</sub> and Total PM <sub>2.5</sub> factors equal to the sum of the filterable and condensable factors. VOC emission factor excludes formaldehyde. Formaldehyde EF = 4.4E-03 lb/MMBtu
---

HAP emission factors are based on AP-42, Chapter 1, Table 1.6-3 and are included in Table 5 of Appendix C of the Application
--

If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors
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Monthly PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC and HAP emissions based on Diesel Fuel - Furnace Cold Start-Up
Emissions (E) = emission factor (EF) (lb/10 <sup>3</sup> gal) x Fuel Usage (gal/month) x 1 ton / 2,000 lb
Criteria pollutant emission factors are based on AP-42, Chapter 1, Section 1.3 - Fuel Oil Combustion, distillate fuel oil (05/10), Table 1.3 - 1, Table 1.3-2, Table 1.3-3, Table 1.3-6 and are located in Appendix C, Table 5 of the Application. SO <sub>2</sub> emissions, assume a 15 ppm sulfur content in diesel fuel
HAP emission factors are based on AP-42, Chapter 1, Table 1.3-8, Table 1.3-9 and are located in Appendix C, Table 5 of the Application
If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors

Monthly PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC and HAP emissions based on Biomass Combustion - Furnace Idle Mode
Emissions (E) = emission factor (EF) (lb/MMBtu) x Heat Input Capacity (MMBtu/hr) x operating hours x 1 ton / 2,000 lb
Criteria pollutant emission factors are based on AP-42, Chapter 1, Section 1.6 - Wood Residue Combustion in Boilers (09/03), Table 1.6-1, for bark/bark and wet wood and are located in Appendix C, Table 6 of the Application. Total PM, Total PM <sub>10</sub> and Total PM <sub>2.5</sub> factors equal to the sum of the filterable and condensable factors. VOC emission factor excludes formaldehyde. Formaldehyde EF = 4.4E-03 lb/MMBtu
HAP emission factors are based on AP-42, Chapter 1, Table 1.6-3 and are located in Appendix C, Table 6 of the Application
If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors

Monthly PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC and HAP emissions based on natural gas combustion - Dryer Duct Burner
Emissions (E) = emission factor (EF) (lb/MMBtu) x Heat Input Capacity (MMBtu/hr) x operating hours x 1 ton / 2,000 lb
Criteria pollutant emission factors are based on AP-42, Chapter 1, Section 1.4 - Natural Gas Combustion (07/98), Table 1.4-1, Table 1.4-2 and are located in Appendix C, Table 7 of the Application. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf
HAP emission factors are based on AP-42, Chapter 1, Table 1.4-3, Table 1.4-4, and NCDAQ Natural Gas Combustion Spreadsheet and are located in Appendix C, Table 7 of the Application. EF for acetaldehyde, acrolein, and ammonia are cited in the NCDAQ spreadsheet as being sourced from the USEPA's WebFIRE database.
If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors

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Monthly PM, PM<sub>10</sub>, and HAP emissions based on natural gas combustion - Regenerative Thermal Oxidizers / Catalytic Thermal Oxidizers <sup>1</sup>

Emissions (E) = emission factor (EF) (lb/MMBtu) x Heat Input Capacity (MMBtu/hr) x operating hours x 1 ton / 2,000 lb

Criteria pollutant emission factors are based on AP-42, Chapter 1, Section 1.4 (07/98), Table 1.4-1, Table 1.4-2. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf

HAP emission factors are based on AP-42, Chapter 1, Section 1.4, Table 1.4-1, Table 1.4-3, and Table 1.4-4. Emission factors are based on an average natural gas higher heating value of 1,20 Btu/scf

<sup>1</sup> Only for those emissions not already captured by algorithms and factors described above.

Monthly VOC and HAP emissions from the Dry Chip Silo and Pelletizer Feed Silo

Emissions (E) = emission factor (EF) (lb/ODT) X Oven-Dry Tons of wood processed x 1 ton / 2000 lb

Monthly PM, PM<sub>10</sub> and PM<sub>2.5</sub> emissions from the Dry Chip Silo, Pelletizer Feed Silo, Pellet Silo 1, and Pellet Silo 2

Emissions (E) = Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 60 min/hour / 7,000 gr/lb x operating hours x 1 ton / 2,000 lb

Baghouse flow rate (scfm) and outlet grain loading (gr/scf) are based on vendor recommendations

Monthly PM, PM<sub>10</sub> and PM<sub>2.5</sub> emissions from Loadout

Emissions (E) = Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 60 min/hour / 7,000 gr/lb x operating hours x 1 ton / 2,000 lb

Baghouse flow rate (scfm) and outlet grain loading (gr/scf) are based on vendor recommendations

Monthly PM, PM<sub>10</sub> and PM<sub>2.5</sub> emissions from Dust Silo

Emissions (E) = Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 60 min/hour / 7,000 gr/lb x operating hours x 1 ton / 2,000 lb

Baghouse flow rate (scfm) and outlet grain loading (gr/scf) are based on vendor recommendations

Monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC emissions based on diesel fuel combustion - Engine 1 - Generator, Engine 2 - Fire Pump

Emissions (E) = emission factor (EF) (g/hp-hr) x engine power (hp) x operating hours x 1 lb / 453.592 g x 1 ton / 2,000 lb

Criteria pollutant emission factors for Engine 1 are based on Technical Data sheet. Criteria emission factors for Engine 2 are based on 40 CFR 60 Subpart IIII (or 40 CFR 89.112 where applicable) in compliance with post-2009 construction except for VOC, which is based on AP-42 Section 3.3, Tables 3.3-1, Table 3.3-2.

If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors

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Monthly HAP emissions based on diesel fuel combustion - Engine 1 - Generator, Engine 2 - Fire Pump

Emissions (E) = emission factor (EF) (lb/hp-hr) x engine power (hp) x operating hours x 1 tons/2,000 lb

HAP emission factors are based on AP-42, Chapter 3, Section 3.3 - Gasoline and Diesel Engines (10/96), Tables 3.3-1, Table 3.3-2 and are included in Appendix C, Table 18 of the Application

If the AP-42 section changes or updates the owner/operator may use the most recent AP-42 factors

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