



## Department Decision

**Air Quality Synthetic Minor Construction Permit  
Permit No. 1360-0050-CC**

**Jasper Pellets, LLC  
523 Nimmer Turf Road  
Ridgeland, South Carolina 29936**

**April 9, 2020**

In accordance with the 1976 Code of Laws of South Carolina, as amended, including SC Code Section 44-1-60(D), a Department Decision has been made to issue Air Quality Synthetic Minor Construction Permit No. 1360-0050-CC to the above-named permittee. This permit was previously placed on public notice and open for public comment from October 11, 2019, through November 9, 2019. Adverse public comments were received by SC DHEC during the comment period. Comments received during the formal comment period regarding air quality issues have been addressed in SC DHEC's *Responses to Comments on Air Quality* document attached to this Department Decision. SC DHEC's decision to issue this permit has been made after consideration and a complete review of the following: the air permit application, applicable state and federal air quality regulations, and comments received within the required time frame, and all other pertinent information.

This Department Decision regarding Air Quality Synthetic Minor Construction Permit No. 1360-0050-CC includes the following; a) the issued permit ([Attachment A](#)) which meets the requirements of all applicable air quality regulations; b) a summary of the project, permit, and applicable regulations as outlined in the Statement of Basis ([Attachment B](#)); and c) a summary of the comments made by concerned citizens regarding air quality issues and responses by the Bureau of Air Quality, as outlined in the *Responses to Comments on Air Quality Permit No. 1360-0050-CC* ([Attachment C](#)). This Department Decision (including attachments) will be included in SC DHEC's administrative record for this permit decision.

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

## **Attachment A**

**Air Quality Synthetic Minor Construction Permit  
Permit No. 1360-0050-CC**



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

**Jasper Pellets, LLC  
523 Nimmer Turf Road  
Ridgeland, South Carolina 29936  
Jasper 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 April 15, 2019, 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: 1360-0050-CC**  
**Issue Date: April 9, 2020**

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

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RECORD OF REVISIONS	
Date	Description of Changes

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### A. PROJECT DESCRIPTION

Permission is hereby granted to expand the pellet production operation by adding additional equipment (see below) which allows the facility to process green wood. The proposed facility redesign will increase the potential production of wood pellets to 210,000 tons per year (tpy); however, the facility is taking a production limit on wood pellets of 60,200 tpy to meet federally enforceable permit limits. This project also involves establishing federally enforceable synthetic minor limits for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub> and CO emissions to avoid PSD; and for HAP emissions to avoid MACT.

### B.1 EQUIPMENT

Equipment ID	Equipment Description	Control Device ID	Emission Point ID
CSP	Concrete Storage Pad for green chips	None	None
WH1	Feed Hopper for green chips	None	None
SCG	Screener for green chips	None	None
HMG	Hammermill for green chips	None	None
FHM1	Hammermill for fuel bin	BH1	BH1
FCY1	Cyclone to transfer wood furnish to Fuel Bin	BH1	BH1
FB1	Fuel Bin to store wood furnish for Dryer Burner	None	None
DR1/BU1	Rotary drum dryer with 40 Million BTU/hr wood fired burner	CY1	STA
HMD1	Hammermill for dry chips (existing)	BH1	BH1
PM4	Pellet Mill	BH2	BH2
PM5	Pellet Mill	BH2	BH2
CO1	Pellet Cooler (existing)	BH2	BH2
ASP1	Aspirator (existing)	BH2	BH2

### B.2 CONTROL DEVICES

Control Device ID	Control Device Description	Pollutant(s) Controlled
CY1*	Dual Cyclone System*	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
BH1	Baghouse (Existing)	PM, PM <sub>10</sub> , PM <sub>2.5</sub>
BH2	Baghouse	PM, PM <sub>10</sub> , PM <sub>2.5</sub>

\* Inherent control device

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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 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>Control Device ID:</b> BU1, CY1, BH1, BH2</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>Control Device ID:</b> BU1, CY1, BH1, BH2</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> <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>

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

Condition Number	Conditions
C.4	<p><b>Equipment ID:</b> HMG, FHM1, DR1, HMD1  <b>Control Device ID:</b> CY1, BH1, BH2</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>

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

Condition Number	Conditions				
C.5	<p><b>Equipment ID:</b> All <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>E = (F) 4.10P^{0.67}</math> and</p> <p style="padding-left: 40px;">For process weight rates greater than 30 tons per hour  <math>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> <table border="1" data-bbox="479 951 1330 1062"> <thead> <tr> <th>Process/Equipment IDs</th><th>Max Process Weight Rate (ton/hr)</th></tr> </thead> <tbody> <tr> <td>Wood Pellet Manufacturing Process</td><td>24</td></tr> </tbody> </table>	Process/Equipment IDs	Max Process Weight Rate (ton/hr)	Wood Pellet Manufacturing Process	24
Process/Equipment IDs	Max Process Weight Rate (ton/hr)				
Wood Pellet Manufacturing Process	24				
C.6	<p><b>Equipment ID:</b> All <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%.</p> <p>The owner/operator shall perform a visual inspection on a daily basis during source operation. 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 semiannual reports. The report shall include records of abnormal emissions (presence of any visible emissions), if any, and corrective actions taken. If a unit did not operate during the semiannual period, the report shall state so.</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>				



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

<b>Condition Number</b>	<b>Conditions</b>
C.7	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section X) 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. The owner/operator of all such operations shall maintain dust control on the premises and any roadway owned or controlled by the owner/operator by paving or other suitable measures. Oil treatment is prohibited.</p>
C.8	<p><b>Equipment ID: BU1</b></p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section III) Low NO<sub>x</sub> burner manufacturer certification(s) are required to verify that the allowable discharge of NO<sub>x</sub> resulting from this source will comply with S.C. Regulation 61-62.5, Standard No. 5.2, Section III. The manufacturer certification shall be provided to the Department at least 30 days prior to startup of operations.</p> <p>In the event that the low NO<sub>x</sub> burner manufacturer certification(s) have not been provided to the Department at least 30 days prior to startup of operations, an initial source test to verify the NO<sub>x</sub> emissions from this source shall be conducted within 60 days after startup. The source test will be used to verify that the NO<sub>x</sub> emissions resulting from this source will comply with S.C. Regulation 61-62.5, Standard No. 5.2.</p> <p>The allowable discharge of NO<sub>x</sub> resulting from this source is 0.6804 lb/10<sup>6</sup> BTU.</p>
C.9	<p><b>Equipment ID: BU1</b></p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section IV) 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 conducted no more than twenty-four (24) months from start-up of operation for affected new 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>
C.10	<p><b>Equipment ID: BU1</b></p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section IV) 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,</p>

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

Condition Number	Conditions
	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.
C.11	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.6) Fugitive particulate matter (PM) emissions from material handling, process equipment, control equipment, or storage piles will be minimized to the maximum extent possible. This will include proper maintenance of the control system such as scheduled inspections, replacement of damaged or worn parts, etc. Fugitive emissions from dust buildup will be controlled by proper housekeeping and/or wet suppression.</p>
C.12	<p><b>Control Device ID:</b> BH1, BH2</p> <p>(S.C. Regulation 61-62.1, Section II.E, S.C. Regulation 61-62.5, Standard No. 4) The owner/operator shall install, operate and maintain pressure drop gauge(s) on each module of each baghouse. Pressure drop readings for each baghouse shall be recorded daily during source operation. Operation and maintenance checks shall be made on at least a weekly basis for baghouse cleaning systems, dust collection hoppers and conveying systems for proper operation. Each baghouse shall be in place and operational whenever processes controlled by it are running, except during periods of baghouse malfunction or mechanical failure.</p>
C.13	<p><b>Equipment ID:</b> FCY1, CY1</p> <p>(S.C. Regulation 61-62.1, Section II.E, S.C. Regulation 61-62.5, Standard No. 4) Each cyclone shall be in place and operational whenever processes controlled by each 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 all cyclones:</p> <ul style="list-style-type: none"> <li>• Check each cyclone and ductwork system for damaged or worn sheet metal or other interferences with proper operation.</li> <li>• Check dust collection hoppers and conveying systems for proper operation.</li> </ul> <p>The results from the operation and maintenance checks shall be maintained in logs (written or electronic), along with any corrective action taken.</p>
C.14	<p><b>Control Device ID:</b> BH1, BH2</p> <p>(S.C. Regulation 61-62.1, Section II.E) 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 and operational history, which demonstrate the proper operation of the equipment. Prior to the first source test, the facility shall use manufacturer's recommendations for operational ranges, except where otherwise provided by this permit. The manufacturer's recommendations must be maintained on site. These ranges and supporting documentation shall be submitted to the Director of the Air Permitting Division within 180 days of startup, and when the final test report is due. Operating ranges may be updated</p>

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

<b>Condition Number</b>	<b>Conditions</b>
	following submittal to the Department.
C.15	<p><b>Equipment ID:</b> BU1</p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall install, operate and maintain combustion zone temperature indicators on the burner. Temperature readings shall be recorded at least every fifteen (15) minutes during source operation for the burner, and the three (3) hour rolling average shall be no less than 2200 degrees Fahrenheit. Maintenance checks for proper temperature indicator operation shall be made on at least a weekly basis. The burner shall be in place and operational whenever processes controlled by it are running. Reports of maintenance checks and the average temperatures shall be submitted semiannually.</p>
C.16	<p><b>Equipment ID:</b> DR1</p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall install, operate and maintain temperature indicators on the dryer inlet. Temperature readings shall be recorded at least every fifteen (15) minutes during source operation, and the three (3) hour rolling average shall be no greater than 900 degrees Fahrenheit. Maintenance checks for proper temperature indicator operation shall be made on at least a weekly basis. Reports of maintenance checks and the average temperatures shall be submitted semiannually.</p>
C.17	<p><b>Equipment ID:</b> DR1, HMG <b>Control Device ID:</b> CY1</p> <p>(S.C. Regulation 61-62.1, Section II.E) An initial source test shall be conducted on the outlet of the Dual Cyclone within 60 days after startup and every year thereafter (no later than 12 months after the previous source test). The source test will be used to verify emissions (in lb/hr) and to establish emission factors (in lb/ODT (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde.</p> <p>The facility may request that the source tests be conducted less often 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.</p> <p>During each source test for the Dual Cyclone, the owner/operator shall continuously record the amount of wood furnish dried in the Dryer and the processing rate of Green Hammermill, separately. The owner/operator shall also monitor and record the following to establish normal operating ranges needed to ensure compliance with VOC and HAP emission limits:</p> <ul style="list-style-type: none"><li>○ the exit temperature of the Burner BU1 to establish temperature ranges of no less than</li></ul>

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

Condition Number	Conditions
	<p>2200 degrees F (or the temperature established during the most recent source test, whichever is higher);</p> <ul style="list-style-type: none"><li>○ the inlet temperature of the Dryer DR1 to establish temperature ranges of no greater than 900 degrees F, (or the temperature established during the most recent source test, whichever is lower);</li><li>○ the pressure in the recycled air duct to establish pressure ranges; and</li><li>○ the position of each damper to ensure that no less than 40% of the air from the Cyclone is recycled to the Dryer, (or the damper position established during the most recent source test, whichever is higher). The owner/operator shall not adjust the damper positions that were established during the testing.</li></ul> <p>An emission factor for each pollutant tested shall be derived from the source test results as follows:</p> <p>Emission factor (EF) in lb/ODT (short tons) = the average emission rate (lb/hr) for each pollutant divided by the average amount wood furnish dried (short tons/hr) in the Dryer.</p> <p>For the purposes of determining compliance with emission limits, the dryer VOC and HAP emission factors shall be multiplied by two (2) any time the three (3) hour average dryer inlet temperature exceeds 900 degrees F, the three (3) hour average burner exit temperature falls below 2200 degrees F, the recycled air falls below 40%, or a parameter established during a source test is out of range.</p> <p>The owner/operator may request approval to reestablish emission factors after the first source test. If the next required source test results in higher emission factors, the owner/operator shall recalculate facility wide emissions dating back to the initial source test and submit emissions to the Department within 30 days after the second source test.</p> <p>The owner/operator shall use the initial emission factors, identified in the Statement of Basis for this permit, until emission factors that are developed from source testing have been approved to use. If the Department grants approval for a lower emission factor after the initial source test, they will not be allowed to request a lower emission factor after subsequent source tests until they have demonstrated the lower factor has been achieved for three consecutive tests.</p>
C.18	<p><b>Equipment ID:</b> FHM1, HMD1 <b>Control Device ID:</b> BH1</p> <p>(S.C. Regulation 61-62.1, Section II.E) An initial source test shall be conducted on the outlet of Baghouse 1 within 60 days after startup and every year thereafter (no later than 12 months after the previous source test). The source test will be used to verify emissions (in lb/hr) and to establish emission factors (in lb/ODT (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde.</p> <p>The facility may request that the source tests be conducted less often for a given pollutant if the</p>

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

Condition Number	Conditions
	<p>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 indicate 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.</p> <p>During the source test, the owner/operator shall continuously record the processing rate of the Fuel Hammermill and Dry Hammermill, separately. The owner/operator shall also monitor and record the pressure drop across the baghouse to establish pressure drop ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits.</p> <p>An emission factor for each pollutant tested shall be derived from the source test results as follows:</p> <p style="padding-left: 40px;">Emission factor (EF) in lb/ODT (short tons) = the average emission rate (lb/hr) for each pollutant divided by the average amount wood furnish processed in the Fuel Hammermill plus the average amount of wood furnish processed in Dry Hammermill.</p> <p>The owner/operator may request approval to reestablish emission factors after the first source test. If the next required source test results in higher emission factors, the owner/operator shall recalculate facility wide emissions dating back to the initial source test and submit emissions to the Department within 30 days after the second source test.</p> <p>The owner/operator shall use the initial emission factors, identified in the Statement of Basis for this permit, until emission factors that are developed from source testing have been approved to use. If the Department grants approval for a lower emission factor after the initial source test, they will not be allowed to request a lower emission factor after subsequent source tests until they have demonstrated the lower factor has been achieved for three consecutive tests.</p>
C.19	<p><b>Equipment ID:</b> CO1, ASP1 <b>Control Device ID:</b> BH2</p> <p>(S.C. Regulation 61-62.1, Section II.E) An initial source test shall be conducted on the outlet of Baghouse 2 within 60 days after startup and every year thereafter (no later than 12 months after the previous source test). The source test will be used to verify emissions (in lb/hr) and to establish emission factors (in lb/ODT (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde.</p> <p>The facility may request that the source tests be conducted less often 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</p>

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<b>Condition Number</b>	<b>Conditions</b>
	<p>test indicate 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.</p> <p>During the source test, the owner/operator shall continuously record the amount of wood pellets produced. The owner/operator shall also monitor and record the pressure drop across the baghouse to establish pressure drop ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits.</p> <p>An emission factor for each pollutant tested shall be derived from the source test results as follows:</p> <p style="padding-left: 40px;">Emission factor (EF) in lb/ODT (short tons) = the average emission rate for each pollutant divided by the average amount of wood pellets processed.</p> <p>The owner/operator may request approval to reestablish emission factors after the first source test. If the next required source test results in higher emission factors, the owner/operator shall recalculate facility wide emissions dating back to the initial source test and submit emissions to the Department within 30 days after the second source test.</p> <p>The owner/operator shall use the initial emission factors, identified in the Statement of Basis for this permit, until emission factors that are developed from source testing have been approved to use. If the Department grants approval for a lower emission factor after the initial source test, they will not be allowed to request a lower emission factor after subsequent source tests until they have demonstrated the lower factor has been achieved for three consecutive tests.</p>
C.20	<p><b>Equipment ID:</b> DR1, HMG, FHM1, HMD1, CO1 <b>Control Device ID:</b> CY1, BH1, BH2</p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall calculate VOC emissions including formaldehyde, acetaldehyde, and methanol emissions using the EPA OTM-26 algorithm below:</p> <p>VOC = [Method 25A VOC as propane + Methanol + Formaldehyde + Acetaldehyde] – [(0.65)Methanol]</p> <p>These emissions shall be used to calculate VOC emission factors.</p>
C.21	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) This facility is a potential major source for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, and CO and hazardous air pollutants (HAP) emissions. The facility has requested federally enforceable operating limitations to limit its potential to emit to less than 250.0 tons per year for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub>, and CO emissions, each, to avoid PSD; and 10.0 tons per year for any single HAP emission and 25.0 tons per year for any combination of HAP emissions to avoid MACT.</p>

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Condition Number	Conditions
C.22	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall maintain records necessary to determine facility wide PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and CO emissions. PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and CO emissions shall be calculated on monthly basis, and a twelve-month rolling sum shall be calculated for total PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and CO emissions using the algorithms in Attachment - Algorithms. Facility-wide emission totals must include emissions from insignificant activities. Emissions from malfunctions are required to be quantified and included in the calculations. The twelve-month rolling sum shall be less than 250.0 tons for PM, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and CO, each. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, operating parameters, and algorithms in the Attachment - Algorithms, shall be submitted semiannually.</p>
C.23	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) The owner/operator shall maintain records necessary to determine VOC and HAP emissions. VOC and HAP emissions shall be calculated on a monthly basis, and a twelve-month rolling sum shall be calculated for total VOC, individual HAP, and total HAP emissions using the algorithms in Attachment - Algorithms. Facility-wide emission totals must include emissions from insignificant activities. Emissions from malfunctions are required to be quantified and included in the calculations. The twelve-month rolling sum shall be less than 250.0 tons for VOCs, 10.0 tons for any single HAP emission, and 25.0 tons for any combination of HAP. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, operating parameters, and algorithms in the Attachment - Algorithms, shall be submitted semiannually.</p> <p>For the purposes of determining compliance with emission limits, the dryer VOC and HAP emission factors shall be multiplied by two (2) any time the three (3) hour average dryer inlet temperature exceeds 900 degrees F, the three (3) hour average burner exit temperature falls below 2200 degrees F, or the recycled air falls below 40%.</p>
C.24	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) The facility is limited to a maximum pellet production rate of 60,200 tons per year, based on a twelve-month rolling sum. The owner/operator must record the actual pellet production rates monthly. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted semiannually.</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.25	<p><b>Equipment ID: DR1</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) The rotary dryer is limited to a maximum wood drying rate of</p>



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

Condition Number	Conditions
	<p>60,200 oven dried tons per year, based on a twelve-month rolling sum. The owner/operator must record the actual wood drying rates monthly. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted semiannually.</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.26	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.1, Section II.E) This facility is permitted to use only virgin softwood as a raw material to make pellets. The use of any other type of wood is prohibited without prior written approval from the Department.</p>
C.27	<p><b>Facility Wide</b></p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section X; S.C. Regulation 61-62.6) The owner/operator shall develop and implement a Best Management Practices Plan for dust control at the site in accordance with the plan's terms. The plan shall be submitted to the Director of the Air Permitting Division, within 120 days after the issuance of this permit, for review and approval. The plan shall include the following:</p> <ol style="list-style-type: none"> <li>1. Dust control methods for roadways, and railcar and/or 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> <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 to go beyond 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,</p>



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

<b>Condition Number</b>	<b>Conditions</b>
	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.

**D. NESHAP PERIODIC REPORTING SCHEDULE SUMMARY - RESERVED**

**E. NESHAP - CONDITIONS - RESERVED**

**F. AMBIENT AIR STANDARDS REQUIREMENTS**

<b>Condition Number</b>	<b>Conditions</b>
F.1	<p>Air dispersion modeling (or other method) has demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. 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>

**Jasper Pellets, LLC****1360-0050-CC****Page 16 of 19****G. PERIODIC REPORTING SCHEDULE**

<b>Compliance Monitoring Report Submittal Frequency</b>	<b>Reporting Period (Begins on the startup date of the source)</b>	<b>Report Due Date</b>
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

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.

**H. REPORTING CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
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	All reports and notifications required under this permit shall be submitted to the person indicated in the specific condition at the following address: <b>2600 Bull Street</b> <b>Columbia, SC 29201</b> The contact information for the local Environmental Affairs Regional office can be found at: <b><a href="http://www.scdhec.gov">http://www.scdhec.gov</a></b>
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	(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:

**H. REPORTING CONDITIONS**

Condition Number	Conditions
	<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 consistent with good practice for minimizing emissions.</li> </ol> <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 S.C. Regulation 61-62.1, Section II.J.1.f) Approval to construct shall become invalid if construction:</p> <ol style="list-style-type: none"> <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> </ol> <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. 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>
I.2	<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 18 months of the projected and approved commencement date.</p>

**Jasper Pellets, LLC****1360-0050-CC****Page 18 of 19****J. PERMIT TO OPERATE**

<b>Condition Number</b>	<b>Conditions</b>
J.1	(S.C. Regulation 61-62.1 Section II.F.2) 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 accordance with the specifications agreed upon in the construction permit issued by the Department.
J.2	If construction is certified as provided in S.C. Regulation 61-62.1 Section II.F.2, 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.
J.3	<p>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.</p> <p>Construction variances that would trigger additional requirements that have not been addressed prior to start of operation shall be considered construction without a permit.</p>
J.4	<p>(S.C. Regulation 61-62.1, Section II.F.3) For sources not yet covered by an effective Title V operating permit, 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 15 days after the actual date of initial startup of each new or altered source.</p> <p>(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 startup.</p>

**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.
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</li></ol>

**Jasper Pellets, LLC****1360-0050-CC****Page 19 of 19****K. GENERAL CONDITIONS**

<b>Condition Number</b>	<b>Conditions</b>
	<p>S.C. Regulation 61-62.1, Section II.J.1.c.i through viii. The written report shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.</p> <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 S.C. Regulation 61-62.1 or with the terms of any approval to construct, or who commences construction after the effective date of S.C. Regulation 61-62.1 without applying for and receiving approval hereunder, shall be subject to enforcement action.</p>

**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>

## ATTACHMENT - Emission Rates for Ambient Air Standards

Jasper Pellets, LLC

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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).

AMBIENT AIR QUALITY STANDARDS – STANDARD NO. 2						
Emission Point ID	Emission Rates (lbs/hr)					
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	Lead
STA	12.0	12.0	1.00	20.6	40.4	--
BH1	7.80	7.80	--	--	--	--
BH2	3.00	3.00	--	--	--	--
CSP	0.17	0.17	--	--	--	--
FB1	0.05	0.05	--	--	--	--
DSP	0.08	0.08	--	--	--	--
DH1	0.08	0.08	--	--	--	--
SCD1	0.08	0.08	--	--	--	--
SB1	0.08	0.08	--	--	--	--
WH1	0.05	0.05	--	--	--	--
SCG	0.05	0.05				

TOXIC AIR POLLUTANTS – STANDARD NO. 8				
Emission Point ID	Emission Rates (lbs/hr)			
	Acetaldehyde	Formaldehyde	Methanol	--
	75-07-0	50-00-0	67-56-1	--
BH1	0.106	0.212	0.106	--
BH2	0.024	0.048	0.024	--
STA	1.648	2.278	1.648	--

## **ATTACHMENT - Algorithms**

**Jasper Pellets, LLC**

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### **VOC Emissions to be used in VOC Emission Factors**

The owner/operator shall calculate VOC emissions including formaldehyde, acetaldehyde, and methanol emissions using the following EPA OTM-26 algorithm:

$$\text{VOC} = [\text{Method 25A VOC as propane} + \text{Methanol} + \text{Formaldehyde} + \text{Acetaldehyde}] - [(0.65) \text{ Methanol}]$$

These emissions shall be used to calculate VOC emission factors.

### **Green Hammermill**

The owner/operator shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithm:

$$\text{Emissions (E)} = (\text{Pollutant emission factor (EF) (lb/ODT)} \times \text{Tons of green wood processed per month}) / 2000 \text{ lb/ton}$$

### **Cyclone**

The owner/operator shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithm:

$$\text{Emissions (E)} = (\text{Pollutant emission factor (EF) (lb/ODT)} \times \text{Tons of wood furnish dried per month}) / 2000 \text{ lb/ton}$$

### **Baghouse 1**

The owner/operator shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithm:

$$E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood furnish processed in the Fuel and Dry Hammermills per month combined}) / 2000 \text{ lb/ton}$$

### **Baghouse 2**

The owner/operator shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithm:

$$E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood pellets processed per month}) / 2000 \text{ lb/ton}$$

### **Pellet Storage and Handling**

The owner/operator shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithm:

$$E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood pellets handled per month}) / 2000 \text{ lb/ton}$$

### **Generally**

The owner/operator shall use the initial emission factors, identified in the Statement of Basis for this permit, until emission factors that are developed from source testing have been approved to use.

## **Attachment B**

### **Statement of Basis Permit No. 1360-0050-CC**





**STATEMENT OF BASIS**  
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BAQ Air Permitting Division

<b>Company Name:</b>	Jasper Pellets, LLC	<b>Permit Writer:</b>	James C. Robinson
<b>Permit Number:</b>	1360-0050-CC	<b>Date:</b>	April 9, 2020

**DATE APPLICATION RECEIVED:** April 15, 2019

**EXPEDITED REVIEW:** Facility applied for expedited review; however, it was not accepted due to multiple deficiencies in the application.

**DATE OF OCRM APPROVAL:** May 21, 2019.

**FACILITY DESCRIPTION:** This facility; formerly known as Champion Wood Pellets, and then Ridgeland Pellet Company; processes wood shavings and sawdust into wood pellets. The previously permitted process begins by unloading the wood shavings and sawdust inside a covered bay. The wood shavings and sawdust, which have an estimated moisture content from 10% to 15%, are loaded by front-end loader into a hopper which feeds the material through a hammermill. The hammermill reduces the size of the wood into a wood meal approximately 1/8". A 26,000 CFM fan pulls the wood meal from the hammermill into a surge bin above the pellet machines. The three (3) functioning pellet machines are then fed by augers. Each pellet machine has a capacity of 4 tons per hour (tph). The pellets are then screened and transferred to a pellet cooler. From the cooler, the pellets are sent to the storage silos above the load out system. The air stream from the process equipment is routed to a centralized baghouse. The existing facility has an estimated maximum production rate of 105,000 tons per year of wood pellets (12 tph \* 8,760 hours per year).

**PROJECT DESCRIPTION:** The facility is requesting to expand its operation by adding additional equipment and increasing potential production capacity of wood pellets to 210,000 tons per year (tpy). Although the facility is proposing to increase potential wood pellet production capacity to 210,000 tons per year (based on pellet machine capacity), there will be operational limits of no more than 60,200 oven dried tons (ODT) of wood furnishings dried per year and no more than 60,200 tons of pellets manufactured per year, each based on a 12 month rolling sum. These operational limits are requested by the facility to remain a PSD and HAP minor source.

The addition of the dryer and pre-dryer equipment will allow the facility to increase the amount of available dried wood furnish. The facility has had issues with getting enough pre-dried material for the exiting pelletizers. The process flows as follows: Green softwood furnish (shavings, chips, and sawdust) will arrive at approximately 50% moisture via live bottom trailers or dump trailers and will be stored on a concrete chip pad (CSP) to await drying. Note that only softwood, i.e. no hardwood, will be processed at this facility. Material movement from the concrete storage pad will be transferred via front-end loader to a feed hopper (WH1) which transfers the furnish to screener (SCG) and then to a green hammermill (HMG) to reduce the size of the material. The material will then convey via air to the dehydration process where the wood furnish is dried to a target moisture content of 10%.

The dehydration process is a system composed of a 40 MMBtu/hr wood fired dry suspension burner (BU1) and a 14.4 tph capacity rotary drum dryer (DR1). The system relies on enveloping the wood pellet furnish in a hot air stream through the dryer. Dual collection cyclones (CY1) are connected to the outfeed of the dryer with duct work in which the material is transported via air to the dual cyclones. The dual collection cyclones separate the dry material from the air stream and deposit materials to a conveyor belt for transport to the dry storage warehouse (DSP). The dual collection cyclones are inherent to the process, as it is only used to transport wood furnish from the dryer to the conveyor belt.



**STATEMENT OF BASIS**  
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BAQ Air Permitting Division

<b>Company Name:</b>	Jasper Pellets, LLC	<b>Permit Writer:</b>	James C. Robinson
<b>Permit Number:</b>	1360-0050-CC	<b>Date:</b>	April 9, 2020

The material in the dry storage warehouse will be conveyed via Front End loader to a feed hopper (DH1). From the feed hopper, the dry material will convey to a screener (SCD1) and then to the dry material hammermill (HMD1) for further grinding to pellet furnish sizing. From the dry hammermill, the material conveys via air through a collection cyclone (SCY1) to covered belt and chain conveyors to a metering surge bin (SB1) for the pelleting machines (PM1-PM5). Hot pellets are conveyed from the pellet machines to a pellet cooler (CO1). The cooled pellets are transferred across a screener to remove any fines and crumbles from the acceptable pellets. The finished pellets are conveyed via covered belt and chain conveyors to storage and loadout bins. From the storage and loadout bins, the finished pellets are loaded into trucks for export.

In addition to wood furnish processed by the dryer, the facility will purchase dry shavings for the pellet machines. Purchased dry material will be stored in the dry storage warehouse (DSP).

Dryer Burner Operation Note

Per the facility, the burner is a direct fired, horizontal, cyclonic suspension burner. Under normal operation, the burner will have one (1) startup per week and one (1) shutdown per week for inspection and clean out. Once started the burner will operate 24 hours per day, seven (7) days per week, and 49 to 50 weeks per week, depending on maintenance and repair needs. The burner will be started with propane. Startups take approximately three (3) minutes.

Permitted Equipment	
Equipment ID	Equipment Description
DH1	24 TPH Feed Hopper for dry wood furnish
SCD1	24 TPH Screener for dry wood furnish
HMD1	24 TPH Hammermill for dried wood
DSP	24 TPH Wood Furnish Storage Warehouse
SB1	Surge Bin to supply dry wood furnish to pellet mills
SCY1	Surge Bin Cyclone - Used to transfer wood furnish
PM1-PM3	Three (3) 4 ton/hr Pellet Mills*
CO1	Pellet Cooler
CYC1	Pellet Cooler Cyclone - Used to transfer pellets
ASP1	Aspirator
CYA1	Aspirator Cyclone - Used to transfer recovered wood furnish
SS1	Four (4) Pellet Storage Silos
LOS	Load Out Station
BH1	26,000 CFM Baghouse - Used as control device
BH2	10,000 CFM Baghouse - Used as control device

\* A 4th Pellet Mill was never used and is being removed.

Proposed Equipment	
Equipment ID	Equipment Description
CSP	One (1) acre Concrete Storage Pad for green chips
WH1	16 TPH Feed Hopper for green chips
SCG	16 TPH Screener for green chips



**STATEMENT OF BASIS**  
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BAQ Air Permitting Division

<b>Company Name:</b>	Jasper Pellets, LLC	<b>Permit Writer:</b>	James C. Robinson
<b>Permit Number:</b>	1360-0050-CC	<b>Date:</b>	April 9, 2020

Proposed Equipment	
Equipment ID	Equipment Description
HMG	16 TPH Hammermill for green chips
FHM1	2.5 TPH Hammermill for fuel bin
FCY1	3,000 CFM Cyclone for fuel bin
FB1	16 TPH Fuel Bin to store wood for Dryer Burner
DR1/BU1	14.4 ODT/hr Rotary drum dryer with 40 Million BTU/hr wood fired burner
CY1	40,000 CFM Dual Cyclone for dried wood furnish transport
PM4, PM5	Two 6 ton/hr Pellet Mills*

\* With addition of the two pellet mills, the total pellet mill capacity will be 24 TPH

**SOURCE TEST REQUIREMENTS:** Facility will be required to do an initial source test, and periodic source tests every 12 months thereafter, on the following sources:

Outlet of the Dual Cyclone CY1 to verify emissions and to establish emission factors (in lb/ODT wood furnish dried in Dryer (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde. During the source test for the Dual Cyclone, the facility shall continuously record the amount of wood furnish dried in the Dryer and the processing rate of Green Hammermill, separately. The facility shall also monitor and record the following to establish normal operating ranges needed to ensure compliance with VOC and HAP emission limits:

- the exit temperature of the Burner BU1 to establish temperature ranges of no less than 2200 degrees F;
- the inlet temperature of the Dryer DR1 to establish temperature ranges of no greater than 900 degrees F;
- the pressure in the recycled air duct to establish pressure ranges; and
- the position of each damper to ensure that no less than 40% of the air from the Dryer is recycled to the Burner. Established damper positions shall not be adjusted, unless reestablished during a test.

Outlet of Baghouse 1 to verify emissions and to establish emission factors (in lb/ODT (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde. During the source test, the facility shall continuously record the processing rate of the Fuel Hammermill and Dry Hammermill, separately. The facility shall also monitor and record the pressure drop across the control device to establish pressure drop ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits.

Outlet of Baghouse 2 to verify emissions and to establish emission factors (in lb/ODT (short tons)) for the following pollutants: PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde. During the source test, the facility shall continuously record the amount of wood pellets produced. The facility shall also monitor and record the pressure drop across the control device to establish pressure drop ranges needed to ensure compliance with PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits.

The facility may request that the source tests be conducted less often for a given pollutant if the source tests for at least 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 performance test no more than 36 months after the previous performance test for the given pollutant. If a subsequent source test indicates facility wide emissions will be greater



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than 85% of the synthetic minor limits, the facility shall return to conducting annual performance tests (no later than 12 months after the previous performance test) for that pollutant. The Department believes after three annual source tests there should be sufficient data to indicate what the actual emissions are at a given production rate, and the use of a threshold of 85% of the synthetic minor limits will provide an adequate safety factor for granting a less frequent source test schedule.

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. Sampling port locations shall be established in a place that is adequate for test methods; and safe to access and sample.

#### Emission Factor Development

The facility has established initial emission factors (EFs) as shown in the emissions tables below. Subsequent emission factors shall be derived from verified source test data as follows:

- For the Cyclone, the average emission rate for each pollutant divided by the average amount of wood furnish dried in the Dryer.
- For Baghouse 1, the average emission rate for each pollutant divided by the average amount of wood furnish processed in the Fuel Hammermill plus the average amount of wood furnish processed in the Dry Hammermill.
- For Baghouse 2, the average emission rate for each pollutant divided by the average amount of wood pellets processed.

The facility shall calculate monthly PM, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, CO, NO<sub>x</sub>, Acetaldehyde, Acrolein, Formaldehyde, Methanol, Phenol, and Propionaldehyde emissions using the following algorithms:

- For the Cyclone,  $E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood furnish dried per month}) / 2000 \text{ lb/ton}$
- For Baghouse 1,  $E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood furnish processed in the Fuel and Dry Hammermills per month combined}) / 2000 \text{ lb/ton}$
- For Baghouse 2,  $E = (\text{Pollutant EF (lb/ODT)} \times \text{Tons of wood pellets processed per month}) / 2000 \text{ lb/ton}$

VOC emission factors shall be developed utilizing the VOC emissions, which include formaldehyde, acetaldehyde, and methanol emissions, calculated with the EPA OTM-26 equation below.

$$\text{VOC} = [\text{Method 25A VOC as propane} + \text{Methanol} + \text{Formaldehyde} + \text{Acetaldehyde}] - [(0.65) \text{Methanol}]$$

For the purposes of determining compliance with emission limits, the dryer VOC and HAP emission factors shall be multiplied by two (2) any time the three (3) hour average dryer inlet temperature exceeds 900 degrees F, the three (3) hour average burner exit temperature falls below 2200 degrees F, the recycled air falls below 40%, or a parameter established during a source test is out of range.

Note: The facility may reestablish emission factors after the first source test, with the understanding they must recalculate facility wide emissions (dating back to the first source test) if the next required source test results in higher emissions. They will need to submit emissions to the department within 30 days of the second test. If a subsequent



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test after the initial source test indicates a lower emissions factor, the facility will be required to demonstrate the lower emission factor for three consecutive tests before the Department would allow a change in the emission factor used for calculating emissions. If at any time the facility wide permit limits are exceeded, the facility may be subject to possible violations including, but not limited to, permit, PSD, and 112(g).

**SPECIAL CONDITIONS, MONITORING, LIMITS**

A condition has been added to the permit stating that the facility will only be allowed to process softwood. This is due to the varying emissions that come from using different types of wood. e.g. hardwoods typically have a higher content of HAPs compared to softwoods.

Production rates shall be adjusted anytime as necessary to stay below all facility wide limits if source testing results in higher emission factors.



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FACILITY WIDE EMISSIONS (Fugitive Sources)*								
Equipment (Equip ID)	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
CSP	PM, PM <sub>10</sub> , PM <sub>2.5</sub> each	0.165	0.723	0.165	0.723	0.165	0.723	EF=3.96 lb PM/Acre-Day at 1 Acre; PM <sub>10</sub> & PM 2.5 conservatively = PM; From Texas Natural Resource Conservation Commission (TNRCC)
CSP	VOC	0.183	0.802	0.183	0.802	0.183	0.802	EF=4.39 lb PM/Acre-Day at 1 Acre; NCASI
WH1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.051	0.224	0.051	0.224	0.051	0.224	PM EF = 3.19E-0 lb/ton at 16 tons per hour (tph) each; PM <sub>10</sub> & PM 2.5 conservatively = PM; From AP-42 (5 <sup>th</sup> Ed), Section 13.2.4.3 x conservative factor of 10.
SCG	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.051	0.224	0.051	0.224	0.051	0.224	
FB1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.051	0.224	0.051	0.224	0.051	0.224	
DSP	VOC	0.18	0.80	0.18	0.80	0.18	0.80	EF=4.39 lb PM/Acre-Day; NCASI
DSP	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.077	0.335	0.077	0.335	0.077	0.335	PM EF = 3.19E-0 lb/ton at 24 tph, each; PM <sub>10</sub> & PM 2.5 conservatively = PM; From AP-42 (5 <sup>th</sup> Ed), Section 13.2.4.3 x conservative factor of 10.
DH1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.077	0.335	0.077	0.335	0.077	0.335	
SCD1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.077	0.335	0.077	0.335	0.077	0.335	
SB1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.077	0.335	0.077	0.335	0.077	0.335	

\* Emissions from this equipment are fugitive emissions and are not counted in the PSD major source applicability determination.



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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
HMG	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.051	0.224	0.051	0.224	0.051	0.224	PM EF = 3.19E-0 lb/ton at 16 tph; PM <sub>10</sub> & PM 2.5 conservatively = PM; From AP-42 (5 <sup>th</sup> Ed), Section 13.2.4.3 x conservative factor of 10.
HMG	VOC	9.3	40.6	9.3	40.6	4.0	17.5**	EF= 0.4 lb/ton at 16 tph; From GA EPD for hammermills
HMG	Acetaldehyde (H,T,V)	0.091	0.399	0.091	0.399	0.039	0.172**	Acetaldehyde (ACE) EF = 0.0057 lb/ton; Acrolein EF = 0.0032 lb/ton; Formaldehyde (FMH) EF= 0.003 lb/ton; Methanol (MeOH) EF= 0.0066 lb/ton; Phenol EF = 0.0041 lb/ton; Propionaldehyde (PPH) EF = 0.0014 lb/ton; From 2019 NC Enviva Sampson Test for green hammermills at 16 tph
HMG	Formaldehyde (H,T,V)	0.051	0.224	0.051	0.224	0.022	0.096**	
HMG	Methanol (H,T,V)	0.048	0.210	0.048	0.210	0.021	0.090**	
HMG	Acrolein (H,T,V)	0.106	0.463	0.106	0.463	0.045	0.199**	
HMG	Phenol (H,T,V)	0.066	0.287	0.066	0.287	0.028	0.123**	
HMG	Propionaldehyde (H,T,V)	0.022	0.098	0.022	0.098	0.010	0.042**	
DR1/BU1	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	120.0	525.6	12.0	52.6	12.0	52.6	PM EF = 0.035 gr/dscf at 40,000 cfm PM <sub>10</sub> & PM 2.5 conservatively = PM; Uncontrolled emissions back calculated using 90% eff.



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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
DR1/BU1	NOx	38.9	170.3	38.9	170.3	18.6	81.3**	NOx EF = 2.7 lb/ODT; CO EF = 5.3 lb/ODT; From GA EPD for Direct Fired Rotary Dryers at 14.4 ODT/hr capacity
DR1/BU1	CO	76.3	334.3	76.3	334.3	36.4	159.5**	
DR1/BU1	SO <sub>2</sub>	1.00	4.38	1.00	4.38	1.00	4.38	EF = 0.025 lb/10 <sup>6</sup> BTU at 40x10 <sup>6</sup> BTU/hr; From AP-42, Table 1.6-2
DR1/BU1	VOC	43.2	189.2	43.2	189.2	20.6	90.3**	14.4 ODT/hr capacity VOC EF = 3.0 lb/oven dried ton (ODT); ACE/MeOH EF= 0.055 lb/ODT; FMH EF= 0.07 lb/ODT; From GA EPD for Direct Fired Rotary Dryers; Divided by 2 for recycled dryer
DR1/BU1	Acetaldehyde (H,T,V)	0.792	3.47	0.792	3.47	0.378	1.66**	
DR1/BU1	Formaldehyde (H,T,V)	1.01	4.42	1.01	4.42	0.481	2.11**	
DR1/BU1	Methanol (H,T,V)	0.792	3.47	0.792	3.47	0.378	1.66**	
DR1/BU1	Acrolein (H,T,V)	0.166	0.725	0.166	0.725	0.079	0.346**	14.4 ODT/hr Capacity  EFs from AP-42 (5 <sup>th</sup> Ed.) Table 10.6.2-3; Source = Rotary dryer, green, direct wood-fired, softwood (inlet moisture content >50%, dry basis); Divided by 2 for recycled dryer
DR1/BU1	Benzene (H,T,V)	0.202	0.883	0.202	0.883	0.096	0.421**	
DR1/BU1	Cumene (H,T,V)	0.221	0.968	0.221	0.968	0.105	0.462**	
DR1/BU1	Methyl Isobutyl Ketone (H, T, V)	0.055	0.240	0.055	0.240	0.026	0.114**	
DR1/BU1	Methylene Chloride (H, T)	0.014	0.063	0.014	0.063	0.007	0.030**	
DR1/BU1	Phenol (H,T,V)	0.050	0.218	0.050	0.218	0.024	0.104**	
DR1/BU1	Propionaldehyde (H,T,V)	0.013	0.057	0.013	0.057	0.006	0.027**	
DR1/BU1	Styrene (H,T,V)	0.003	0.011	0.003	0.011	0.001	0.005**	





James C. Robinson

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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
DR1/BU1	Toluene (H,T,V)	0.094	0.410	0.094	0.410	0.045	0.196**	
DR1/BU1	Xylene (H,T,V)	0.038	0.166	0.038	0.166	0.018	0.079**	
DR1/BU1	Hydrochloric Acid (H,T)	0.760	3.33	0.760	3.33	0.760	3.33	EF = 0.019 lb/MMBtu at 40 MM Btu/hr; From GA EPD for Direct Fired Rotary Dryers
HMD1/FHM1 – Combined	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	780.0	3416.4	7.80	34.2	7.80	34.2	PM EF = 0.035 gr/dscf at 26,000 CFM PM <sub>10</sub> & PM 2.5 conservatively = PM; Routed to Baghouse 1; Uncontrolled emissions back calculated using 99% eff.
HMD1/FHM1 – Combined	VOC	60.0	262.8	60.0	262.8	17.2	75.3**	EF= 2.5 lb/ton at 24 tph; From GA EPD for dry hammermills
HMD1/FHM1 – Combined	Acetaldehyde (H,T,V)	0.218	0.957	0.218	0.957	0.063	0.274**	ACH EF = 0.0091 lb/ton; Acrolein EF = 0.0108 lb/ton; FMH EF= 0.008 lb/ton; MeOH EF= 0.0052 lb/ton; Phenol EF = 0.0041 lb/ton; PPH = 0.0188 lb/ton; From 2019 NC Enviva Sampson Test for dry hammermills at 24 tph
HMD1/FHM1 – Combined	Formaldehyde (H,T,V)	0.259	1.135	0.259	1.135	0.074	0.325**	
HMD1/FHM1 – Combined	Methanol (H,T,V)	0.192	0.841	0.192	0.841	0.055	0.241**	
HMD1/FHM1 – Combined	Acrolein (H,T,V)	0.125	0.547	0.125	0.547	0.036	0.157**	
HMD1/FHM1 – Combined	Phenol (H,T,V)	0.098	0.431	0.098	0.431	0.028	0.123**	
HMD1/FHM1 – Combined	Propionaldehyde (H,T,V)	0.451	1.976	0.451	1.976	0.129	0.566**	



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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
PM1-PM5, CO1, ASP1 (combined)	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	300.0	1314.0	3.0	13.14	3.0	13.14	PM EF = 0.035 gr/dscf at 10,000 CFM PM10 & PM 2.5 conservatively = PM; Routed to Baghouse 2; Uncontrolled emissions back calculated using 99% eff.
PM1-PM5 (combined)	VOC	12.1	52.9	12.1	52.9	3.4	15.1**	EF = 0.5 lb/ton at 24 tph; From GA EPD for Pelletizer/pellet cooler (without steam)
PM1-PM5 (combined)	Acetaldehyde (H,T,V)	0.202	0.883	0.202	0.883	0.058	0.253**	ACH EF = 0.0084 lb/ton; Acrolein EF = 0.0504 lb/ton; FMH EF= 0.0312 lb/ton; Acrolein EF = 0.0108 lb/ton; Phenol EF = 0.0252 lb/ton; PPH = 0.0128 lb/ton; From 2019 NC Enviva Sampson test for Pelletizing Process at 24 tph
PM1-PM5 (combined)	Formaldehyde (H,T,V)	1.210	5.298	1.210	5.298	0.214	0.939**	
PM1-PM5 (combined)	Acrolein (H,T,V)	0.749	3.280	0.749	3.280	0.346	1.517**	
PM1-PM5 (combined)	Phenol (H,T,V)	0.605	2.649	0.605	2.649	0.173	0.759**	
PM1-PM5 (combined)	Propionaldehyde (H,T,V)	0.307	1.346	0.307	1.346	0.088	0.385**	
PM1-PM5 (combined)	Methanol (H,T,V)	0.128	0.561	0.128	0.561	0.037	0.161**	EF = 0.0053 lb/ton at 24 tph; Average of Various Source Test***
CO1, ASP1 (combined)	VOC	12.0	52.6	12.0	52.6	3.4	15.1**	EF = 0.5 lb/ton at 24 tph; From GA EPD for



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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
								Pelletizer/pellet cooler (without steam)
CO1, ASP1 (combined)	Acetaldehyde (H,T,V)	0.202	0.883	0.202	0.883	0.058	0.253**	ACH EF = 0.0084 lb/ton; Acrolein EF = 0.0504 lb/ton; FMH EF= 0.0312 lb/ton; Acrolein EF = 0.0108 lb/ton; Phenol EF = 0.0252 lb/ton; PPH = 0.0128 lb/ton; From 2019 NC Enviva Sampson test for Pelletizing Process at 24 tph
	Formaldehyde (H,T,V)	1.210	5.298	1.210	5.298	0.214	0.939**	
	Acrolein (H,T,V)	0.749	3.280	0.749	3.280	0.346	1.52**	
	Phenol (H,T,V)	0.605	2.649	0.605	2.649	0.173	0.759**	
	Propionaldehyde (H,T,V)	0.307	1.346	0.307	1.346	0.088	0.385**	
	Methanol (H,T,V)	0.128	0.561	0.128	0.561	0.037	0.161**	0.0053 lb/ton at 24 tph; Average of Various Source Test***
LOS, SS1 (combined)	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	0.077	0.335	0.077	0.335	0.077	0.335	PM EF = 3.19E-03 lb/ton at 24 tph; PM <sub>10</sub> & PM <sub>2.5</sub> conservatively = PM; From AP-42 (5 <sup>th</sup> Ed), Section 13.2.4.3 x conservative factor of 10.
LOS, SS1 (combined)	VOC	9.60	42.0	9.60	42.0	2.75	12.0**	EF = 0.4 lb/ton product at 24 tph; From GA EPD for storage and handling
LOS, SS1 (combined)	Acetaldehyde (H,T,V)	0.202	0.883	0.202	0.883	c	0.253**	ACH EF = 0.0084 lb/ton; Acrolein EF = 0.0504 lb/ton; FMH EF= 0.0312 lb/ton; Phenol EF = 0.0252 lb/ton;
LOS, SS1 (combined)	Formaldehyde (H,T,V)	1.210	5.298	1.210	5.298	0.346	1.517**	



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FACILITY WIDE EMISSIONS (Point Sources)*								
Equip ID	Pollutant	Uncontrolled		Controlled		PTE		Method of Estimating Emissions
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	
LOS, SS1 (combined)	Acrolein (H,T,V)	0.749	3.280	0.749	3.280	0.214	0.939**	PPH = 0.0128 lb/ton; From 2019 NC Enviva Sampson test for Pelletizing Process at 24 tph
LOS, SS1 (combined)	Phenol (H,T,V)	0.605	2.649	0.605	2.649	0.173	0.759**	
LOS, SS1 (combined)	Propionaldehyde (H,T,V)	0.307	1.346	0.307	1.346	0.088	0.385**	
LOS, SS1 (combined)	Methanol (H,T,V)	0.128	0.561	0.128	0.561	0.037	0.161**	0.0053 lb/ton at 24 tph; Average of Various Source Test***

\* Emissions from this equipment are counted in the PSD major source applicability determination.

\*\* PTE based on dryer production limit 60,200 tons or total pellet production of 60,200 oven dried tons per 12-month rolling sum, each.

\*\*\* The methanol factor of 0.0053 lb/ton is an average derived from the following pellet cooler/pelletizing emission factors: Enviva Greenwood March 2019 Test (uncontrol factor of 0.00026 lb/ton for Pellet Coolers controlled by RCO 1), Telfair Forest Products 2019 Part 70 Permit (0.005 lb/ton for entire pelleting process), Enviva Wiggins 2013 Test (0.009 and 0.003 lb/ton for pellet coolers 1 and 2, respectively), and Enviva Sampson 2017 Test (0.0045 lb/ton for pellet cooler 5).

H=HAP, T=TAP, V=VOC



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**FACILITY WIDE EMISSIONS SUMMARY**

Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM, PM <sub>10</sub> , PM <sub>2.5</sub> , each	1200.1	5256.2	22.9	100.1	22.9	100.1
VOC	146.1	639.8	146.1	639.8	51.4	225.1
NO <sub>x</sub>	38.9	170.3	38.9	170.3	18.6	81.3
CO	76.3	334.3	76.3	334.3	36.4	159.5
SO <sub>2</sub>	1.00	4.38	1.00	4.38	1.00	4.38
Acetaldehyde (H,T,V)	1.71	7.47	1.71	7.47	0.65	2.86
Acrolein (H,T,V)	4.10	17.98	4.10	17.98	1.22	5.33
Benzene (H,T,V)	0.055	0.240	0.055	0.240	0.026	0.114
Cumene (H,T,V)	0.014	0.063	0.014	0.063	0.007	0.030
Formaldehyde (H,T,V)	3.49	15.3	3.49	15.3	1.20	5.26
Hydrochloric Acid (H,T)	0.76	3.33	0.76	3.33	0.76	3.33
Methanol (H,T,V)	1.41	6.16	1.41	6.16	0.569	2.49
Methyl Isobutyl Ketone (H, T, V)	0.013	0.057	0.013	0.057	0.006	0.027
Methylene Chloride (H, T)	0.050	0.218	0.050	0.218	0.024	0.104
Phenol (H,T,V)	2.18	9.55	2.18	9.55	0.67	2.94
Propionaldehyde (H,T,V)	1.62	7.08	1.62	7.08	0.51	2.23
Styrene (H,T,V)	0.003	0.011	0.003	0.011	0.001	0.005
Toluene (H,T,V)	0.094	0.410	0.094	0.410	0.045	0.196
Xylene (H,T,V)	0.038	0.166	0.038	0.166	0.018	0.079
Total HAPs	15.5	68.0	15.5	68.0	5.70	24.98

H=HAP, T=TAP, V=VOC

**OPERATING PERMIT STATUS**

This facility does not currently have an operating permit but will be issued a Title V Operating Permit. The facility will be a Title V major source for PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub>, and CO.

**REGULATORY APPLICABILITY REVIEW**

Regulations	Comments/Periodic Monitoring Requirements
Section II.E – Synthetic Minor	Federally enforceable limits for PM, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>x</sub> , CO, and VOC will be established with this construction permit to avoid PSD; and for HAP emissions to avoid MACT. Note that the facility is requesting a synthetic minor limit for NO <sub>x</sub> although NO <sub>x</sub> PTE is less than 250.0 tpy. See Explanation of Synthetic Minor Limits Table below.
Standard No. 1	The dryer burner does not meet the criteria of a fuel burning source as defined by Standard 1, because the combustion exhaust from the burners is in direct contact with the wood chips in the dryer.
Standard No. 3 (state only)	The dryer burner is not subject to this standard because it only burns green wood.
Standard No. 4	Standard 4 PM and 20% opacity limits are applicable to this process. See the Std 4 table below. Additionally, there are non-enclosed equipment that is subject to Section X of this regulation.



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<b>Company Name:</b>	Jasper Pellets, LLC	<b>Permit Writer:</b>	James C. Robinson
<b>Permit Number:</b>	1360-0050-CC	<b>Date:</b>	April 9, 2020

**REGULATORY APPLICABILITY REVIEW**

Regulations	Comments/Periodic Monitoring Requirements
Standard No. 5.2	The dryer burner is considered a "Fuel Combustion Source burning any non-specified fuel not listed" and is subject to Low-NOX burners or equivalent technology, which shall achieve 30 percent reduction from uncontrolled levels. Uncontrolled NOx emissions are 38.88 lb/hr. A 30 percent reduction equals 27.88 lb/hr. The NOx limit will be 0.6804 lb/10 <sup>6</sup> BTU (27.88 lb/hr divided by burner input size of 40x10 <sup>6</sup> BTU/hr). The burner is also subject to tune ups, fuel records, and source tests (if required). If vendor certification for the burner is not provided at least 30 days prior to startup of operations, a source test will be used to verify compliance with this NOx limit.
Standard No. 7	The facility is not a 28 source category for PSD Applicability and is subject the 250 tons per year major threshold. Federally enforceable limits (PM, PM <sub>10</sub> , PM <sub>2.5</sub> , NOx, CO, and VOC) are being established with this permit to avoid PSD. See Explanation of Synthetic Minor Limits Table below. Note that the major source applicability determination and the synthetic minor limits do not include fugitive emissions, as fugitive emissions are not counted for facilities that are not one of the 28 source categories.
61-62.6	Fugitive PM emissions shall be controlled in a manner that does not produce undesirable levels of air pollution. A condition has been added to the permit for the facility to development and follow a Best Management Practices Plan for dust control.
40 CFR 60 and 61-62.60	This facility does not contain sources subject to these standards.
40 CFR 61 and 61-62.61	This facility does not contain sources subject to these standards.
40 CFR 63 and 61-62.63	<p>Federally-enforceable limits for HAPs are being established with this permit to avoid major source MACT. See Explanation of Synthetic Minor Limits Table below.</p> <p>The facility will not have any emergency engines or pumps.</p> <p>There are no Area Source MACTs that the facility is subject to at this time. There are no boilers at the facility or being constructed at this time; and therefore, the facility is not subject to Subpart 6J "Area Source Boiler MACT".</p> <p>Note that even if the facility was major HAPs, it would not be subject to the following Subparts:</p> <p>DDDD "Plywood and Composite Wood Products" (PCWP), because it is not defined as a PCWP manufacturing facility.</p> <p>DDDDD "NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters", because the dryer burner is not defined as a process heater, as it is a direct fired unit.</p>
61-62.68	This facility does not use or store any chemicals regulated by 112(r).



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<b>Company Name:</b>	Jasper Pellets, LLC	<b>Permit Writer:</b>	James C. Robinson
<b>Permit Number:</b>	1360-0050-CC	<b>Date:</b>	April 9, 2020

**REGULATORY APPLICABILITY REVIEW**

Regulations	Comments/Periodic Monitoring Requirements
40 CFR 64 (CAM)	<p>This facility has Pollutant Specific Emission Units (PSEU). For a PSEU to be subject to compliance assurance monitoring (CAM) the PSEU must meet the following criteria:</p> <ul style="list-style-type: none"> <li>i. Be located at a major source for which a Part 70 or 71 permit is required</li> <li>ii. Be subject to an emission limitation or standard</li> <li>iii. Use a control device to achieve compliance</li> <li>iv. Have potential pre-control emissions of greater than 100 tons per year if a criteria pollutant or greater than 10/25 tons per year if a HAP and must not otherwise be exempt from CAM</li> </ul> <p>CAM will be addressed during Title V permitting.</p>

**Explanation of Synthetic Minor Limits**

Pollutant	Emission Limit (TPY)	Explanation
PM	<250.0	Compliance with limits will be demonstrated by source testing, properly maintaining and monitoring control devices, and keeping records of actual emissions of each pollutant on a 12-month rolling sum.
PM <sub>10</sub>	<250.0	
PM <sub>2.5</sub>	<250.0	
VOC	<250.0	Compliance with limits will be demonstrated by source testing, parametric monitoring of the dryer and burner, keeping records of the amount of green furnishings dried (less than 60,200 oven dried tons per year) and the total amount of pellets produced (less than 60,200 tons per year), and keeping records of the actual emissions for each pollutant. All calculations will be based on a 12-month rolling sum.
CO	<250.0	
NOx	<250.0	
Individual HAP	<10.0	
Total HAP	<25.0	

**Standard No. 4 Allowable**

Process	Process Weight Rate (tons/hr)	PM Allowable (lb/hr)	Uncontrolled Emissions PM (lb/hr)	Controlled Emissions PM (lb/hr)	Monitoring
Wood Pellet Manufacturing Process	24	34.47	1642.4	12.03	Properly operate and maintain all control devices

**AMBIENT AIR STANDARDS REVIEW**

Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	This facility has demonstrated compliance for these Standards; see modeling summary dated September 30, 2019, and updated on March 18, 2020. No operational restrictions have been established to ensure compliance with the modeled emission rates.
Standard No. 7.c	
Standard No. 8 (state only)	



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**PUBLIC NOTICE**

This construction permit(s) underwent a 30-day public notice, in accordance with SC Regulation 61-62.1, Section II.N, to establish synthetic minor limits. The public notice began on October 11, 2019 and ended at 5:00 pm on November 9, 2019.

The following is a summary of the changes to the draft permit due to the comments received. Note that condition numbers changed due to the removal of Condition C.6 in the draft permit.

- Condition C.15: Changed minimum burner temperature from 1500 degrees Fahrenheit (F) to 2200 degrees F, and the wording "from equal to or greater than" to "no less than".
- Condition C.17: Changed minimum burner temperature from 1500 degrees F to 2200 degrees F, and the wording from "equal to or greater than" to "no less than". Changed wording from "equal to or less than" to "no greater than" for the dryer inlet temperature. Changed the recycled air return rate from 75% to 40%. Added a requirement to multiply the dryer VOC and HAP emission factors by 2 any time one of the three monitored parameters (burner exit temperature, dryer inlet temperature, and recycled air return rate) are out of range. This has also been updated in Condition C.23.
- Conditions C.17, C.18, C.19: Changed testing frequency from every two years to annually. Added that an initial source test must be conducted within 60 days after startup (rather than 180 days). Added Acrolein, Phenol, and Propionaldehyde to pollutants that need to be tested. Modified the provision regarding reductions in source test frequency. Changed re-establishment of new emission factors language to allow Jasper Pellets the option to request approval to use an emission factor derived from the initial source test. If emission factors derived from the next source test are higher, Jasper Pellets must calculate facility wide emissions and verify compliance dating back to the initial source test using the higher emission factors. Added language requiring Jasper Pellets to use the initial emission factors until new emission factors derived from source test have been approved. If the Department grants approval to use a lower emission factor after the initial source test, the facility will not be allowed to request a lower emission factor after subsequent source tests until it has demonstrated the lower factor has been achieved for three consecutive tests.
- Condition C.21: Reworded for clarity as to PSD and MACT avoidance.
- Condition C.24: Changed maximum pellet production rate from 108,000 tons per year (tpy) to 60,200 tpy. This was also updated in Part A of the Permit (Project Description). Added a requirement that production rates must be adjusted anytime as necessary to stay below any facility wide limit if source testing results in higher emission factors.
- Condition C.25: Changed maximum wood drying rate from 94,000 oven dried tons per year (ODT) to 60,200 ODT per year. Added a requirement that production rates must be adjusted anytime as necessary to stay below any facility wide limit if source testing results in higher emission factors.





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- Condition C.27: Clarified requirement that facility implement Best Management Practices plan for dust control in accordance with the plan's terms. Added that the facility must update the plan if the Department or facility determines that additional control measures are needed or current dust control measures need modification.
- Updated ATTACHMENT - Emission Rates for Ambient Air Standards with updated emissions.
- Updated ATTACHMENT – Algorithms: Made changes including an algorithm for calculation of green hammermill emissions; an algorithm for pellet storage and handling emissions; and requirement to use the initial emission factors until emission factors that have been developed from source testing have been approved to use.

The following were changes to the draft permit to correct any errors or bring more clarity to various parts of the permit.

- Updated Sections B.1 and B.2 to include sources that were omitted inadvertently.
- Condition C.6: Removed this condition from the public noticed draft permit after it was determined that SC Regulation 61-62.5, Standard No. 3 does not apply. The condition numbers in the permit were changed due to the removal of Condition C.6.

#### **SUMMARY AND CONCLUSIONS**

It has been determined that this source, if operated in accordance with the submitted application and terms of the permit, will meet all applicable requirements and emission standards.

## **Attachment C**

**Response to Comments  
Permit No. 1360-0050-CC**

**South Carolina Department of Health and Environmental Control**  
**Bureau of Air Quality**  
**Response to Comments**  
**Public Notice #19-057-TV-C**  
**Jasper Pellets, LLC (1360-0050-CC)**

The following is the SC Department of Health and Environmental Control's (DHEC) Bureau of Air Quality (Department) response to the comments made and issues raised during the formal comment period held October 11, 2019 through November 9, 2019 regarding the draft Jasper Pellets, LLC synthetic minor construction permit. The written comments received regarding the draft permit are available for viewing at the SC DHEC Columbia office located at 2600 Bull Street, Columbia, SC 29201, or hardcopies can be requested by contacting our Freedom of Information Office at (803) 898-3817.

During the comment period, comments were prepared by the Environmental Integrity Project (EIP) and the Southern Environmental Law Center. These comments were submitted on behalf of the South Carolina Coastal Conservation League, South Carolina Chapter of the Sierra Club, Dogwood Alliance, Partnership for Policy Integrity, Natural Resources Defense Council, Our Children's Earth, the Rachel Carson Council, and themselves.

The Department has reviewed each comment and has provided a written response. Where appropriate, the draft permit was revised based on the comments received. The following is a summary of the changes to the draft permit.

- Condition C.15: Changed minimum burner temperature from 1500 degrees Fahrenheit (F) to 2200 degrees F, and the wording "from equal to or greater than" to "no less than".
- Conditions C.17, C.18, C.19: Changed testing frequency from every two years to annually. Added that an initial source test must be conducted within 60 days after startup (rather than 180 days). Added Acrolein, Phenol, and Propionaldehyde to pollutants that need to be tested. Modified the provision regarding reductions in source test frequency. Changed re-establishment of new emission factors language to allow Jasper Pellets the option to request approval to use an emission factor derived from the initial source test. If emission factors derived from the next source test are higher, Jasper Pellets must calculate facility wide emissions and verify compliance dating back to the initial source test using the higher emission factors. Added language requiring Jasper Pellets to use the initial emission factors until new emission factors derived from source test have been approved. If the Department grants approval to use a lower emission factor after the initial source test, the facility will not be allowed to request a lower emission factor after subsequent source tests until it has demonstrated the lower factor has been achieved for three consecutive tests.
- Condition C.17: Changed minimum burner temperature from 1500 degrees F to 2200 degrees F, and the wording from "equal to or greater than" to "no less than". Changed wording from "equal to or less than" to "no greater than" for the dryer inlet temperature. Changed the recycled air return rate from 75% to 40%. Added a requirement to multiply the dryer VOC and HAP emission factors by 2 any time one of the three monitored parameters (burner exit

temperature, dryer inlet temperature, and recycled air return rate) are out of range. This has also been updated in Condition C.23.

- Condition C.21: Reworded for clarity as to PSD and MACT avoidance.
- Condition C.24: Changed maximum pellet production rate from 108,000 tons per year (tpy) to 60,200 tpy. This was also updated in Part A of the Permit (Project Description). Added a requirement that production rates must be adjusted anytime as necessary to stay below any facility wide limit if source testing results in higher emission factors.
- Condition C.25: Changed maximum wood drying rate from 94,000 oven dried tons per year (ODT) to 60,200 ODT per year. Added a requirement that production rates must be adjusted anytime as necessary to stay below any facility wide limit if source testing results in higher emission factors.
- Condition C.27: Clarified requirement that facility implement Best Management Practices plan for dust control in accordance with the plan's terms. Added that the facility must update the plan if the Department or facility determines that additional control measures are needed or current dust control measures need modification.
- Updated ATTACHMENT - Emission Rates for Ambient Air Standards with updated emissions.
- Updated ATTACHMENT – Algorithms: Made changes including an algorithm for calculation of green hammermill emissions; an algorithm for pellet storage and handling emissions; and requirement to use the initial emission factors until emission factors that have been developed from source testing have been approved to use.

The following are the comments received with the Department's response to each comment immediately following:

Environmental Integrity Project Comments Received on November 9, 2019 (via email)

- I. **Comment: Jasper Pellets Cannot Begin Operations Until It Obtains a Title V Operating Permit.** Specifically, the commenter asserts that the facility's potential to emit for VOCs exceeds the Title V applicability threshold and that the facility has been subject to Title V since commencing operation of the units authorized under its 2013 construction permit. The commenter states that DHEC must prohibit Jasper Pellets from operating until the facility has obtained a Title V permit. The commenter also states that DHEC should bring enforcement action for the facility's existing operation.

**Department's Response**

Part 70 requirements governing Title V air quality permitting are set forth in EPA and Department regulations. However, the applicability and enforcement of those provisions are not matters under the purview of this construction permit decision. Concerns related to any

alleged violation of Title V or other requirements may be considered by the Department outside the context of this construction permit.

**II. Comment: Even Under the Proposed Operating Limits, Jasper Pellets' Potential VOC Emissions Exceed the PSD Major-Source Threshold.**

- A. The commenter asserts that Jasper Pellets overestimates the degree of VOC reduction under its proposed VOC control scheme and that this scheme is insufficient to restrict PTE to below the major source threshold. Specifically, the commenter points out that the draft permit requires the facility to recycle 75% of dryer exhaust during stack testing, while the permit application states that the recycle rate will be 85%. The commenter states that there is a need for clarity on the recycle rate through incorporation of enforceable permit conditions. The commenter also asserts that the facility's assumed destruction efficiency of 100% of VOCs from the 85% of exhaust that will be recycled is flawed and not plausible based on comparison of the facility's proposed blend chamber to the efficiency of other add-on controls. The commenter states that a 90% destruction efficiency is the highest that can be assumed for the recycled exhaust, based on technical constraints. Under a 90% destruction facility for recycled exhaust, the commenter states that the facility's PTE will exceed the major source threshold.

**Department's Response**

The 75% recycle rate of the dryer exhaust noted in the draft permit was a typographical error.

Jasper Pellets has indicated to the Department that it recognizes the commenter's concern with the assumed blend chamber destruction efficiency in calculating controlled emissions and PTE for this facility. The Department also agrees that a destruction efficiency of 100% should not be assumed.

After further review of relevant information from Georgia EPD and discussion with Jasper Pellets' consultant, the updated permit applies a new method for determining emission factors. This new method relies on Georgia source test data, rather than a destruction efficiency assumption, and accounts for the operational limit on dryer inlet temperature (which was not specifically considered in emission factor calculations for the draft permit). By limiting dryer inlet temperature to 900 degrees F or less, facilities can reduce the extent to which VOCs are released from the material being processed, thereby constraining emissions. The modified approach applied is similar to the approach taken by Telfair Forest Products, LLC for the addition of a second dryer and permitted by Georgia EPD. Under the modified approach proposed by Jasper Pellets, the initial VOC emission factor calculation is based on limiting the dryer inlet temperature to 900 degrees F or less and an updated permit requirement for a 40% recycle rate or greater. These proposed operational constraints were discussed with Georgia EPD, and testing completed on plants in that state has indicated VOC emissions at plants that both (i) recycle exhaust at an approximately 40% rate and (ii) limit dryer inlet temperature to 900 degrees F or less are about half of emissions at those plants that do not recycle dryer exhaust and do not maintain a maximum dryer inlet temperature. Based on this additional information, the proposed emission factor for the dryer is 3.0 lbs/ODT (half of the Georgia EPD emission factor for dryers that do not recycle exhaust or limit dryer inlet temperature). Jasper Pellets has provided test data from LJR Forest Products of Swainsboro, GA indicating this dryer operating under the proposed conditions would actually emit VOCs at 1.3 lbs/ODT, which is less than half the proposed factor of 3.0 lbs/ODT.

The permit will require Jasper Pellets, through source testing, to set the return damper position to ensure that the recycle rate is 40% or greater. The condition also states that Jasper Pellets shall not adjust the damper position that was established during the source test. Jasper Pellets will also be required to monitor the minimum 2200 degrees F burner exit temperature and the maximum 900 degrees F dryer inlet temperature to ensure these limits are not exceeded. In addition, to further alleviate any concerns, Jasper Pellets has agreed to conduct the first source test within 60 days of start of operation. In the event the test shows higher VOC emissions than expected, Jasper Pellets must adjust production levels as necessary to remain below the 250.0 TPY limit in the permit. Jasper will be required to multiply the emission factor used for calculating emissions by 2 any time any of the three monitored parameters are out of range.

In reviewing the data in response to these comments it was determined the VOC emission factors for dry hammermills was applied to the green hammer mill. The dry hammermill factors are not appropriate. Georgia EPD indicated they had received comments from EIP on the draft Part 70 Air Quality Permit for Hazlehurst Wood Pellets, LLC, which suggest that VOC emission factors for green hammermills range from 0.2 to 0.58 lb/ton. The Department believes it is appropriate, in this case, to use an initial emission factor of 0.58 lb/ton, which represents the worst case emission factor for this facility and is based on available data for a plant with a mostly softwood mix in the production. Jasper agrees to testing within 60 days of the start of operation to verify the factor for the green hammermill.

- B.** The commenter asserts that Jasper Pellets has improperly omitted wood and pellet storage emissions from its VOC estimates. Specifically, the commenter asserts that wood and/or pellet storage in silos or bins emits significant levels of VOCs and references an emission factor used by Georgia EPD. The commenter states that use of the Georgia EPD emission factor for pellet storage and handling would result in PTE in excess of the major source threshold. The commenter also notes that there is ambiguity in the permit record as to the exact number and configuration of existing storage silos and proposed replacement bins.

#### **Department's Response**

Upon review, the Department agrees that Jasper Pellets did not account for VOC emissions from all wood and/or pellet storage bins. The Department requested this information from Jasper Pellets and Jasper Pellets has provided the Department with VOC emissions calculations for all storage bins. Per the comments' suggestion, Jasper Pellets used the Georgia EPD emission factor of 0.4 lb/ton to calculate the VOC emissions from all pellet storage. Using the production limit of 60,200 tpy, these calculations show an additional 12.0 tpy of potential VOC emissions, which have now been accounted for in the facility's total uncontrolled and controlled PTE estimates and added to the Statement of Basis for the permit. Based on the production limits contained in the permit, PTE has been calculated as remaining below the major source threshold.

- C.** The commenter asserts as discussed above, that Jasper Pellets has underestimated its VOC emissions. Specifically, the commenter asserts that after applying a 90% destruction efficiency and adding VOC emissions from storage, Jasper Pellets has a PTE for VOCs of 304.9 tpy under the proposed production limits (94,000 tons of dryer throughput and 108,000 tons of total

production), and to remain a synthetic minor source for purposes of PSD, Jasper Pellets must reduce its production capacity in order to be a synthetic minor.

#### **Department's Response**

As discussed in II.A and II.B above, PTE for the dryer and hammermill has been recalculated based on additional review of information from Georgia EPD, and storage emissions have been added to PTE calculations. The Department has modified the permit to limit the facility-wide production rate to no more than 60,200 tpy and dryer production rate to no more than 60,200 oven dried tpy. Under these limits, in combination with other federally enforceable limitations, monitoring, and reporting conditions in the permit, the facility will have a VOC PTE of less than 250.0 tpy.

### **III. Comment: Jasper Pellets Will Be a Major Source of Hazardous Air Pollutants.**

- A. The commenter asserts that Jasper Pellets' PTE for aggregate HAPs exceeds the Major Source Threshold. Specifically, the commenter asserts that Jasper Pellets failed to account for several individual HAPs particularly prevalent at wood pellet plants. The commenter states that the most problematic omission is of acrolein, phenol, and propionaldehyde, which are emitted at significant levels. The commenter also asserts the HAP emission factors utilized by Jasper Pellets are outdated, specifically as to post-dryer units, and Jasper Pellets should be utilizing emission factors derived from more recent testing at multiple Enviva facilities, specifically the Enviva Sampson facility in North Carolina. The commenter argues that Jasper Pellets' potential HAP emissions should be calculated using the following emission factors:

- Georgia EPD – Dryer (methanol, formaldehyde, acetaldehyde, and HCL)
- Enviva Sampson – Dryer (acrolein, phenol, and propionaldehyde); and
- Enviva Sampson – Dry Hammermills and Pellet Presses/Coolers (all six HAPs).

The commenter asserts using these emission factors the resulting PTE for aggregate HAPs is 29.05 TPY and that after accounting for differences between Jasper Pellets and Enviva Sampson, PTE for HAPs would be 32 TPY. The commenter concludes that Jasper Pellets must take lower production limits to be a synthetic minor source for HAPs.

#### **Department's Response**

Upon reviewing the data provided by the commenter, the Department recognizes that recent industry data (testing) shows that acrolein, phenol, and propionaldehyde are emitted at significant levels by wood pellet plants and that there are more representative emission factors for the omitted HAPs (acrolein, phenol, and propionaldehyde) and the three previously included HAPs (methanol, formaldehyde, acetaldehyde). In addition to the data provided by the commenter, the Department reviewed data from Enviva Pellets Greenwood of Greenwood, SC (March 7, 2019 source test); Telfair Forest Products of Dublin, GA (December 2, 2019 Part 70 Permit); Enviva Pellets Wiggins of Wiggins, Mississippi (October 10, 2013 source test); and Enviva Pellets Sampson of Faison, NC (April 2017 source test). Upon review of this data the Department requested Jasper Pellets to update emissions calculations using the emission factors below. These factors have been updated and included in the Facility Wide Emissions Tables of Jasper Pellets' permit Statement of Basis.

It should be noted that the methanol emission factor for the Pellet Presses/Coolers at Enviva Sampson (0.24 lb/ton) did not appear to be in line with the factors for similar sources. These include: Enviva Greenwood (0.00026 lb/ton for pellet coolers controlled by RCO 1; assuming an average RCO efficiency of 95% (EPA Fact Sheet cites 90 to 99%) gives an uncontrolled factor of 0.0052 lb/ton), Telfair Forest Products (0.005 lb/ton for entire pelleting process), Enviva Wiggins (0.009 and 0.003 lb/ton for pellet coolers 1 and 2, respectively), or Enviva Sampson (0.0045 lb/ton for pellet cooler 5). An average of the five uncontrolled pellet cooler emission factors for methanol (0.0053 lb/ton) will be used initially and tested within 60 days of the start of operation to confirm or update the factor. If source testing yields a higher emission factor for any HAP than expected, the facility must adjust its production as necessary to ensure that HAP permit limits are not violated.

- Georgia EPD – Dryer (acetaldehyde, formaldehyde, methanol, and HCl)
- AP-42 – Dryer (acrolein, phenol, and propionaldehyde)
- Enviva Sampson – Hammermills and Pellet Presses/Coolers (acetaldehyde, formaldehyde, methanol (except pellet presses/coolers), acrolein, phenol, and propionaldehyde).
- Average Factor – Pellet Presses/Coolers (methanol)

Jasper Pellets has agreed to a production limit of 60,200 tpy and a dryer limit of 60,200 ODT per year. Using this new production limit and the updated emission factors should ensure that the PTE for aggregate HAPs remains below 25.0 tpy.

- B.** The commenter asserts that the draft permit fails to restrict HAP emissions below the major source threshold because the permit lacks adequate HAP emissions monitoring. Specifically, the commenter asserts that emission factors and algorithms must be included in the permit to be federally enforceable, and that the Department must amend the permit to include additional testing and monitoring for acrolein, phenol, and propionaldehyde. The commenter discusses HAP emission rates from the Enviva Sampson facility and suggests that other HAPs not referenced in the draft permit represent roughly a third of facility-wide HAP emissions. In addition, the commenter asserts that the facility-wide algorithms must account for all other HAPs emitted by the facility.

#### **Department's Response**

The permit as modified contains appropriate emission limits, operational conditions, and supporting monitoring, recordkeeping, and reporting to restrict emissions below major source thresholds and ensure legal and practical enforceability. Both the draft and final permit include appropriate monitoring in the form of testing, parametric monitoring of control devices, and recordkeeping and reporting of emissions calculations and recording of control device parameters. Permit conditions require semi-annual reporting of records, including calculation of 12-month rolling sums each month, and maintaining records on site. The facility also must limit pellet production to no more than 60,200 tons per year (based on a 12-month rolling sum).

As discussed above, the Department has modified the draft permit to include monitoring, recordkeeping, and reporting of acrolein, phenol, and propionaldehyde emissions in the same



manner as other HAPs identified in the draft permit (methanol, formaldehyde, and acetaldehyde) and these measures are appropriate for enforceably restricting emissions below PSD major source thresholds. Per the commenter's request, the permit algorithms document has also been updated to account for the additional HAPs.

The permit's synthetic minor limits remain enforceable notwithstanding that the emission factors to be used (which will change) are not specifically listed. It is not practicable to list specific emission factors in a permit where those emission factors are based on source testing and are subject to change. In this case, the terms of the permit clearly identify how emission factors must be selected and applied for each relevant source and pollutant. Any source testing that results in a higher emission factor than that used based on prior source testing will require the facility to recalculate facility-wide emissions dating back to the prior source test to ensure compliance with permit limits. In addition, the Department documented in the statement of basis (SOB) for the draft permit the initial emission factors proposed by Jasper Pellets. The SOB for the final permit also includes the emission factors, as updated in response to these comments. The SOB for the draft permit was included in the public noticing of the draft permit and these emission factors were available for review and comment by the public. Both the initial emission factors to be used prior to source testing (which are documented in the final SOB) and new emission factors to be derived from source testing would be available to the public through the FOI office, as well as associated source test data. The permit has also been modified to clearly require Jasper Pellets to use the initial emission factors approved during the permit process and identified in the SOB until new emission factors are established through source testing. For further discussion, see the Department's response in Section VII.

**IV. Comment: Jasper Pellets May Not Take Advantage of the "One-Time Doubling" Technique to Become a Major Source.**

**A.** The commenter discusses the "one-time doubling" method for avoiding PSD applicability and states concern that Jasper Pellets is spending significant capital to double the plant's production capacity while also taking a production limit "essentially identical" to the facility's current capacity, noting that EPA has defined such scenarios as potentially indicative of attempts to skirt PSD. Based on such concern, the commenter references the "Source Obligation Rule" set forth in S.C. Regulation 61-62.5, Std. 7(r)(4) and corresponding EPA regulations. Because of the Source Obligation Rule, the commenter asserts that any future relaxation of PSD avoidance limits on production and emissions would subject the facility to PSD as if the source had not yet constructed. "For example, if the facility attempted to raise its production limit from 108,000 tpy to 200,000 tpy and that increase caused potential emissions to exceed the 250 tpy threshold, the move would be unlawful unless the facility undergoes PSD permitting as a major source."

**B.** The commenter asserts that where a source intends to operate at major source levels in the future but takes PTE limits to expedite construction or avoid PSD, the situation constitutes "sham permitting," such that the permit limits cannot be used in the determination of PTE. The commenter further states that any such permit issued is considered "void *ab initio*," and EPA will take appropriate enforcement to prevent construction or operation without a major source permit. The commenter asserts that the facility's doubling of capacity and

acceptance of production limits essentially identical to current capacity is a situation entitled to careful scrutiny with respect to sham permitting. The commenter states that “DHEC must verify that Jasper Pellets actually intends to remain a minor source and is not attempting to circumvent PSD by accepting limits that the facility intends to relax at a later date.”

#### **Department’s Response to IV.A and IV.B**

The Department acknowledges that Jasper Pellets will have a production capacity greater than the production limits contained in the permit and understands if the facility were to seek an increase in production up to levels that caused PTE to exceed major source thresholds, it would be subject to PSD permitting. However, it is not uncommon for facilities to install more capacity than is needed to account for downtime due to maintenance and other issues, such as actual equipment capacities being less, and sometimes much less, than vendor advertised equipment capacities. For instance, it is the Department’s understanding that the facility’s maximum capacity under the prior permit (105,000 tpy) is not an accurate reflection of the facility’s actual production, given its current lack of a dryer and resultant need to obtain pre-dried wood. Under the new permit, even if the equipment could physically operate at higher production capacities, Jasper Pellets is still limited to the production rate contained in the permit and is required to maintain and report production on a rolling 12-month basis. The facility has represented to the Department that it does not intend to operate as a PSD major source and that the conditions of the permit reflect its planned mode of operations. Should the facility in fact operate at major source levels, in violation of the permit and applicable regulations, the facility would be subject to Department enforcement. If future testing indicates Jasper Pellets can operate at higher production levels and maintain compliance with the synthetic minor facility wide limits, Jasper Pellets may request an increase in the permitted production levels, should it choose to do so. However, as previously stated Jasper Pellets has indicated that it does not ever intend to operate as a major source. Jasper Pellets acknowledges that due to the uncertainty of the emission factors during the permitting process they are accepting a lower production limit. Jasper Pellets also acknowledges that they believe source testing will provide data that will justify a request to increase production at a later date while maintaining compliance with the synthetic minor limits.

Additionally, if in the future the applicant requests to relax the synthetic minor limits, the Department will review all requirements that may be applicable to the facility at that time, to include S.C. Code Regs. 61-62.5, Std. 7(r)(4).

#### **V. Comment: The Final Permit Must Contain More Stringent Stack Testing Requirements**

The commenter asserts the compliance testing requirements contained in the draft permit are insufficient to ensure that Jasper Pellets is in continuing compliance with its synthetic minor emission limits, due to emissions at wood pellet plants being highly variable. The commenter states that Jasper Pellets should be subject to annual compliance testing, or at a minimum, DHEC must amend the draft permit to remove provisions providing for less frequent testing based on prior stack test results. The commenter adds that if the Department maintains the provision allowing less frequent testing, the provision should be amended to reduce the threshold for less frequent testing to 50% of all synthetic minor limits. The commenter also states concern that

the draft permit provides conflicting information about whether Jasper Pellets must receive approval from DHEC prior to engaging in less frequent testing and, if so, what that approval process requires.

#### **Department's Response**

The Department has reviewed the data supplied by the commenter and followed up with the permitting authorities for the plants identified in the comments and has agreed to revise the permit's source testing provisions due to the high variability of emissions from wood pellet facilities. Specifically, the Department has modified the draft permit to require an initial source test within sixty (60) days after startup (in contrast to the draft permit's requirement for an initial source test after 180 days), followed by annual testing as requested by the commenter. Consistent with the Enviva Sampson facility's testing conditions, the draft permit has also been modified to allow Jasper Pellets an opportunity to request less frequent testing after three (3) consecutive tests have indicated facility wide emissions will be less than 85% of the synthetic minor limits. Written approval from the Department will be required before Jasper Pellets can perform less frequent testing. If approval is granted, Jasper Pellets must conduct a source test no more than 36 months (i.e., three years) 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 Department believes after the annual source tests there should be sufficient data to indicate what the emissions are at a given production rate. The use of a threshold of 85% of the synthetic minor limits will provide an adequate safety factor for granting a less frequent source test schedule. This has been clarified in each of the relevant permit conditions (Conditions C.17, C.18, and C.19 of the final permit).

#### **VI. Comment: The Draft Permit Does Not Protect the Local Community from Harmful Fugitive Dust Emissions.**

The commenter asserts wood pellet plants generate a lot of fugitive dust, which is one of the most common air pollution complaints raised by residents of communities where wood pellet plants are located. The commenter lists major sources of fugitive dust at wood pellet plants and points out health problems and environmental and nuisance impacts associated with exposure to particulate matter pollution.

The commenter asserts that the draft permit's two general provisions requiring Jasper Pellets to control and minimize fugitive dust, and the requirement to develop a Best Management Practices Plan for dust, do not resolve the fugitive dust issues that come from operation of a wood pellet plant. The commenter states that DHEC must amend the draft permit to include heightened requirements tailored to wood pellet operations (i.e. windbreaks or enclosed structures for storage piles, minimizing drop heights and transfer points, and watering or coverings) in order to prevent fugitive emissions from becoming airborne. Lastly, the commenter asserts that required fugitive dust Best Management Practices Plan should be incorporated into the plant's permit so as to render the plan and its measures enforceable. The commenter states that the need for these additional requirements is especially acute because

the facility will impact the health and well-being of vulnerable communities that are already plagued by numerous polluting facilities.

#### **Department's Response**

The Department understands that Jasper Pellets, like other wood pellet plants, has the potential to generate large amounts of fugitive dust, based on the nature of operation alone. The Department agrees that Jasper Pellets, like any facility that generates, or has the potential to generate, fugitive dust should be required to implement measures to minimize fugitive dust as much as possible. As stated by the commenter, the Department has included in the draft permit two provisions requiring Jasper Pellets to control and minimize fugitive dust from the plant, as well as a requirement to develop a Best Management Practices Plan for dust control within 120 days of the issuance of this permit. Condition C.6 further limits opacity to 20%. Condition C.27 contains a list of minimum requirements that must be addressed in the Best Management Practices Plan. The Department believes that facilities can best determine what dust control measures they should take to meet the requirements contained in the permit related to fugitive dust and particular matter emissions. Fugitive dust considerations and requirements are specific to each site and as such fugitive dust plans require accurate, site-specific detail on how dust, truck traffic, process equipment, etc. at the facility will be controlled and maintained. Prior to the issuance of a construction permit, the specific details required for the plan may not be known for certain by the facility at that time. If it is determined that the Best Management Practices Plan measures are insufficient to ensure the facility's impact to any nearby communities is minimized, the facility would be required to revise the plan so that it is sufficient to minimize impacts. The facility would also be subject to enforcement as appropriate to the extent dust is not minimized as required by the permit. All permit terms, including requirements to develop and implement the Best Management Practices Plan, are enforceable.

#### **VII. The Final Permit Must Incorporate Into the Permit the Emission Factors Utilized to Demonstrate Compliance with Permit Limits and PSD/MACT Avoidance.**

The commenter asserts the draft permit does not specify what emission factors shall be used initially, and only states that the emission factors will be established by the initial and periodic stack testing. Further, the commenter states that the draft permit does not require these emission factors, once established, to be incorporated into the permit by a permit amendment. The commenter asserts that in order for the PTE limits to be practically enforceable, these emission factors must be incorporated into the permit or at least be made readily available to the public. In addition, the commenter states that a provision must be added to the permit requiring Jasper Pellets to modify the permit to include the revised emission factors once the facility's initial compliance testing is completed and at any other time the facility revises its emission factors.

The commenter further asserts that if the facility produces a lower emission factor than a prior test, without any accompanying technical or operational reason for the lower emission rate, DHEC should continue to rely on the higher emission factor. The commenter adds that where the facility does achieve lower emissions and proposes to use the lower emission factor, any

changes in operations that lead to the lower emissions must be incorporated into the permit as enforceable PTE limits.

#### **Department's Response**

The Department acknowledges the importance of the emission factors, as they are a major part of determining whether Jasper Pellets is in compliance with permit limits. To that end, as discussed in the response under III.B above, the Department documented the initial emission factors to be used by Jasper Pellets in the statement of basis (SOB) for the draft permit (with updates as described herein and documented in the SOB for the final permit), and the SOB was included in the public noticing of the draft permit. Both the initial emission factors under the final SOB and permit and new emission factors to be derived from source testing will continue to be available to the public through the FOI office, along with associated source test data.

The permit has been modified to clearly require Jasper Pellets to use the initial emission factors approved during the permit process and contained in the SOB, and to clearly set forth the conditions under which they can be revised based on source test results. The permit's synthetic minor limits will remain enforceable notwithstanding that the emission factors to be used (which will change) are not specifically listed in the permit. It is not practicable to list specific emission factors in a permit where those emission factors are based on source testing and are subject to change. Prior to the first source test, Jasper Pellets will be required to use the initial emission factors documented in the SOB to report emissions. After Jasper Pellets has completed source testing, Jasper Pellets may be allowed to use new emission factors once they demonstrate the new factors are appropriate. Requiring the facility to test under conditions representative of worst-case emissions (see Condition C.4 of the permit) should result in a more conservative emission factor (and prevents a facility from reducing its emission factor by changing its operations, without updating the permit to reflect such change in operational design). Any source testing that results in a higher emission factor than that adopted from the prior source test will require the facility to recalculate facility-wide emissions dating back to the prior source test to ensure compliance with permit limits. In addition, if the Department grants approval for a lower emission factor based on the first source test, the facility is not allowed to request any further reduction in the emission factor based on subsequent source tests until it has demonstrated that a lower factor has been achieved for three consecutive tests. Any new emission factors, emission calculations, and compliance demonstration of limits are all readily available to the public through the Freedom of Information process. The permit is not designed for revisions on a continual basis, and the absence of a permit modification for every source test-based adjustment of an emission factor does not render the PTE limits or associated requirements governing derivation of emission factors unenforceable. The terms of the permit clearly identify how emission factors must be determined and applied for each relevant source and pollutant. If the emission factor must be increased based on source test data, the facility must demonstrate compliance with PTE limits using the higher emission factor.

#### **VIII. The Permit Lacks Adequate Parametric Monitoring to Ensure Compliance with Emission Limits and PSD and MACT Avoidance**

The commenter asserts the permit needs several control device monitoring additions to ensure compliance. Specifically, the commenter asserts the facility should be required to monitor the actual temperature of the blend chamber, and that there should be parametric monitoring (pressure drop and inlet velocity) for the cyclones controlling dryer emissions.

#### **Department's Response**

Jasper Pellets has proposed to not monitor the blend chamber temperature (and destruction efficiency) and instead monitor operational limits on the burner exit temperature of 1500 degrees F or greater, the dryer inlet temperature of 900 degrees F or less and a 40% or greater recycle rate. The parametric monitoring for the dryer is consistent with monitoring required of other similar facilities that do not have "back end" controls such as an regenerative thermal oxidizer (RTO) or regenerative catalytic oxidizer (RCO). By monitoring burner exit temperature, dryer inlet temperature, and the recycle rate, the facility should be able to determine if equipment is functioning properly and restricting emissions as it should.

The Department's historical practice has been that if cyclones are being used as control devices, then pressure drop is a required parameter to be monitored. If cyclones are inherent to a process, e.g. being used for product recovery or material transport, as is in the case of Jasper Pellets, then there are no monitoring requirements. The draft permit currently requires the monitoring of opacity and weekly maintenance checks, which is consistent with other permits containing process inherent cyclones. Additionally, the North Carolina Enviva Sampson permit, which the commenter has identified as a representative wood pellet plant, does not have requirements to monitor pressure or inlet velocity.

The other parametric monitoring contained in the permit, combined with the permit's source test, recordkeeping, and reporting requirements, are deemed adequate for ensuring compliance with the permit's synthetic minor limits.

### **IX. DHEC Has Failed to Consider and Address Environmental Justice Concerns.**

- A.** The commenter asserts that DHEC issued a draft permit for modifications to the Jasper Pellets facility that would disproportionately impact low-income communities and communities of color, without a full and complete understanding of how the proposed expansion would impact those communities. The commenter describes the surrounding population as 55% minority and 61% low-income, and states that these communities are burdened by other sources of pollution and suffer from relatively poorer health outcomes. The commenter notes that the draft permit would allow for an increase in production capacity and pollution associated with it, particularly compared to the absence of operations for several years. The commenter references DHEC's "Environmental Justice Guiding Principles" and other environmental justice information on DHEC's website. The commenter further states that DHEC issued the draft permit without conducting an environmental justice analysis, and that there is no evidence in the permit record that DHEC even considered the potential environmental justice impacts to the local communities.

### **Department's Response**

As stated on our website, DHEC is committed to "the fair treatment and meaningful involvement of people of all races, cultures and income with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies in working towards increasing prosperity of all South Carolinians." To that end, DHEC utilized EPA's EJSCREEN to review the environmental and demographic indicators near Jasper Pellets on Nimmer Turf Road in Ridgeland, SC. DHEC staff also conducted a field survey of the area surrounding the Jasper Pellets facility on December 5, 2019.

EJSCREEN did not identify any majority low income and/or minority communities within a one-mile radius of Jasper Pellets. The Department also reviewed results from different radiuses from Jasper Pellets as far out as Able Contracting, Inc. EJSCREEN calculated EJ Indices above the 80th percentile beyond a one-mile radius of Jasper Pellets. Although EPA has stated that the 80th percentile is "helpful to establish a suggested Agency starting point for the purpose of identifying geographic areas that may warrant further consideration, analysis, or outreach," the EPA webpage (<https://www.epa.gov/ejscreen/how-does-epa-use-ejscreen>) details how EPA intended for EJSCREEN to be used.

EJSCREEN is not used by EPA, and thus DHEC staff, for any of the following:

- As a means to identify or label an area as an "EJ community"; or
- To quantify specific risk values for a selected area.

To date, residents of the surrounding community have not commented on the Jasper Pellets draft permit or identified themselves as an environmental justice (EJ) community.

See the Department's response to IX.B below for additional information on the Department's review of information on other sources of emissions in the area and potential effects from this facility.

- B.** The commenter asserts that DHEC failed to consider the cumulative impacts of the draft permit to nearby communities by not taking into account the background health information and other polluting industries in the area. The commenter states that Jasper County is in the bottom half of the state for overall health outcomes, and that there are at least 12 additional air pollution sources within a 10-mile radius. The commenter also notes the Able Contracting site and others within a 15-mile radius. The commenter describes the area's rankings for relevant pollutants and conditions under EJSCREEN. The commenter specifically asserts that DHEC should use the demographic, socioeconomic, and background health data for the area, other polluting industries, and environmental justice indicators (such as EPA's EJSCREEN) to assess the cumulative effects of Jasper Pellets and meet the commitments in DHEC's environmental justice guiding principles. The commenter further asserts that the results of such environmental justice analysis should be incorporated in any decision DHEC makes on the final permit for the Jasper Pellets' facility.

### **Department's Response**

The SC air quality regulations do not require an EJ analysis or health study be performed for air permit decisions, which is why there is no EJ analysis included in the record of decision. This air permit decision is based on all applicable air quality regulations and review of all technical and other information submitted showing compliance with requirements for issuance of the permit.

As mentioned above, the EPA website <https://www.epa.gov/ejscreen/how-does-epa-use-ejscreen> details how EPA intended for EJSCREEN to be used.

EJSCREEN is not used by EPA, and thus DHEC staff, for any of the following:

- To measure cumulative impacts of multiple environmental factors; or
- As a basis for agency decision-making or making a determination regarding the existence or absence of EJ concerns.

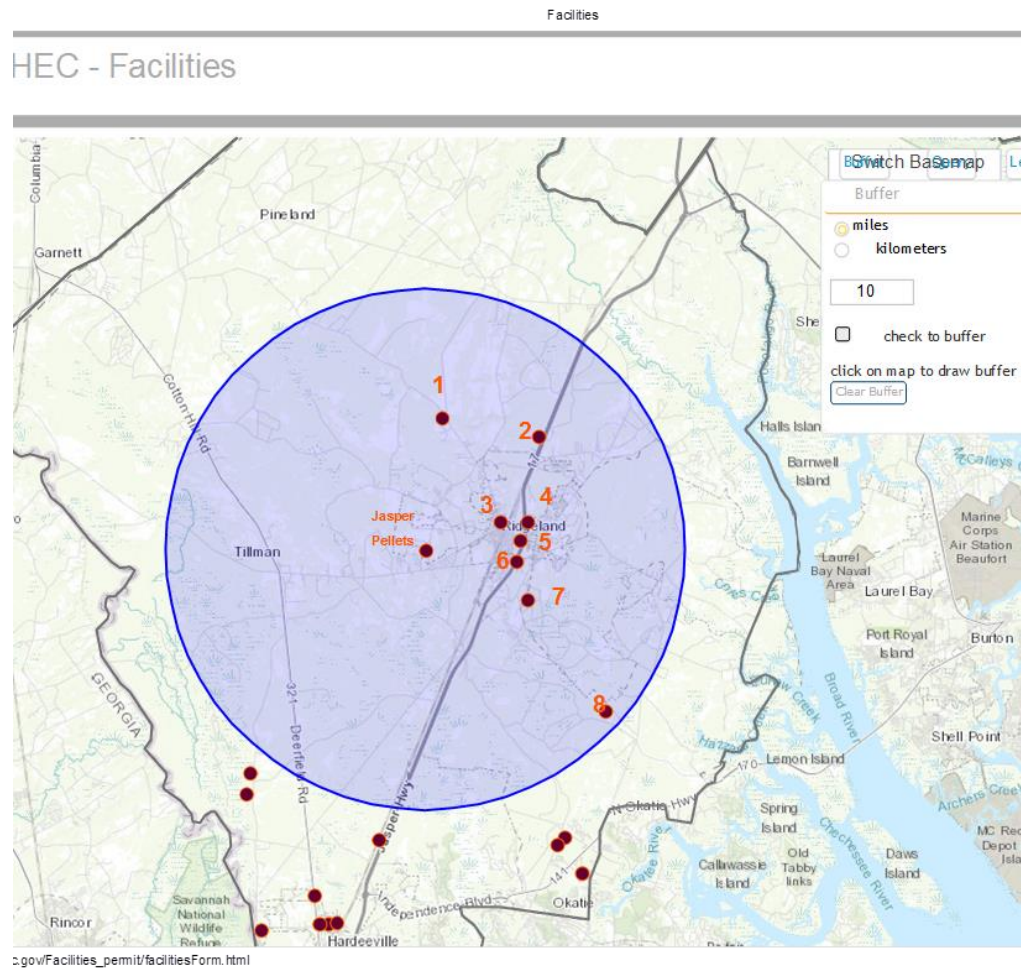
Regardless, DHEC is interested in engaging with local stakeholders to pursue environmental educational programs, grants, and community awareness efforts.

Concerning the Able Contracting, Inc. site (Able) located in Ridgeland at 472 Schinger Avenue in Jasper County, DHEC completed the removal of material from the Able site on January 6, 2020. The removal of the source materials subsequently eliminated the occurrence of fire and smoke on the Able site. See additional information about the Able site at <https://www.scdhec.gov/environment/ongoing-projects-updates/able-contracting-fire>

As shown below, the Department records show 8 facilities with air permits within a 10 mile radius of Jasper Pellets. These eight facilities include two Title V facilities, and the remaining 6 consist of registration and minor state operating permits. In comparison, there are many cities and towns in the state that have a higher number of major facilities within a 10 mile radius. SC is currently, and has a long history of, meeting the NAAQS statewide. These standards have been established by the EPA and are set to be protective of the public health, including those sensitive and vulnerable populations, and the environment. The Department also requires applicants for air quality permits to demonstrate the proposed facility will not cause or contribute to a violation of the NAAQS. This demonstration can be done through either air dispersion modeling or through "other information". Jasper Pellets submitted "other information" demonstrating that emissions from the facility will not interfere with the attainment or maintenance of the NAAQS for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, and CO. More specifically, representative background data for the Jasper Pellets location shows that current ambient air quality in the area is well below the NAAQS for each of these pollutants, with concentrations of 3% (1-hr CO), 9% (8-hr CO), 12% (annual NO<sub>2</sub>), 29% (24-hr PM<sub>10</sub>), 31% (1-hr NO<sub>2</sub>), 38% (24-hr PM<sub>2.5</sub>), and 59% (annual PM<sub>2.5</sub>) compared to the standards. The emissions increases of these pollutants for the current project represent relatively small increases in the overall emissions inventory of Jasper county of 0.5% (CO), 2% (PM<sub>10</sub>), 3% (NO<sub>x</sub>), and 3% (PM<sub>2.5</sub>). The Department reviewed the other information submitted by the facility and concurs that the relatively small increases in emissions for the current project should not cause or contribute to a violation of the NAAQS for any of the applicable pollutants if the facility is operated in compliance with the



air permit.. In addition, Department regulations and the permit's terms include additional requirements designed to minimize off-site impacts (e.g., Best Management Practices Plan requirements).



1. Terminal Investment Corporation
2. Eurovia Atlanta Coast Asphalt
3. Gretsck USA Drum Manufacturing
4. Grayco
5. Argos USA Hilton Head Concrete plant
6. Good Shepherd Pet Crematory
7. Coastal Debris
8. Hickory Hill Landfill and Recycling Center