COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Blue Ridge Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

James Hardie Building Products, Inc.
1000 James Hardie Way Pulaski, Virginia
Permit No. BRRO21446

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, James Hardie Building Products, Inc. has applied for a Title V Operating Permit for its Pulaski, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Contact:_____ Date: _____
Blake Apo
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Air Permit Manager:_____ Date: _____
David J. Brown

Regional Director:_____ Date: _____
Robert J. Weld

FACILITY INFORMATION

Permittee
James Hardie Building Products, Inc
1000 James Hardie Way, Pulaski, Virginia 24301

Facility
James Hardie Building Products, Inc.
1000 James Hardie Way, Pulaski, Virginia 24301

County-Plant Identification Number: 51-155-00067

SOURCE DESCRIPTION

NAICS Code: 32739 – Primary manufacturing of concrete products (except block, brick, and pipe)

James Hardie Building Products, Inc. Pulaski Plant manufactures cement fiberboard and soffit boards. Wood pulp is processed into slurry and mixed with cement, sand and additives. The mixture is pressed into sheets, stacked and cured. Cured sheets are finished by coating operations.

The facility is a Title V major source of Volatile Organic Compounds located in an attainment area for all pollutants. The facility is currently permitted under a Minor NSR Permit last issued on August 15, 2013.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units at the facility are reflected in the Title V permit on Page 2 and Page 30 (insignificant units).

EMISSIONS INVENTORY

Emissions from calendar year 2012 are summarized in the following table.

	2012 Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO_2	PM_{10}	NO_2
Total	23.67	14.98	0.11	16.11	17.86

EMISSION UNIT APPLICABLE REQUIREMENTS

The following section discusses requirements for the emission units at the facility that are subject to Title V permitting. These requirements come from the NSR permit and applicable state and federal requirements. The conditions are not repeated verbatim from the permit. The regulatory authority for each condition is listed in parentheses () below each condition in the permit.

Several requirements apply to different process areas (e.g., all fabric filters have an identical visible emissions limitation). To limit the duplication of conditions, these types of conditions have been included in the Facility Wide portion of the permit. References to the applicable Facility Wide conditions are included at the end of each process area's section.

(3) 33.5 MMBtu/hr Boilers

Limitations

The units in this section are covered by conditions in the 8/15/13 Minor NSR permit. Natural gas is the only approved fuel for these units as stated in the Facility Wide Conditions section. No annual emission limit was established because these units can operate 8,760 hours per year and still comply with the facility wide natural gas consumption limit of 1,500 million cubic feet per year contained in the Facility Wide Conditions section. The boilers are subject to lb/MMBtu emission limits.

Monitoring & Recordkeeping

The lb/MMBtu emission limits were derived from applicable AP-42 emission factors. These boilers are subject to NSPS Dc with the only applicable requirements being notification and recordkeeping conditions. NSPS Dc requires the natural gas consumption for each boiler to be maintained monthly and the underlying permit requires fuel consumption to be kept on a rolling

12-month period. This recordkeeping obligation is included in the Title V permit. Natural gas combustion, performed within a properly maintained and operated boiler, is not expected to produce visible emissions. Proper maintenance and operation practices for the boilers are demonstrated by maintaining maintenance schedules, written operating procedures, and training operators as required in the Facility Wide Conditions section. Proper maintenance and operation of the natural gas boilers are evidence of compliance with the lb/MMBtu emission limit; therefore, the monitoring is sufficient to assure compliance.

Streamlined Requirements
Condition 2 of the 8/15/13 permit document, a general reference requiring equipment to be operated in accordance with NSPS Dc, is not included because all applicable NSPS Dc requirements are included in the Title V permit.
NSPS Dc notification requirements have been satisfied therefore not included in the Title V permit.

Emergency Diesel Engine

Limitations
The emergency diesel engine (EG-001) is covered by conditions in the 8/15/13 Minor NSR permit that limits operation hours to 500 per 12 month period and designates diesel as the only approved fuel. The visible emission standard for new and modified stationary sources (9VAC5-50-80) is included. The emergency diesel engine is subject to 40CFR63 Subpart ZZZZ (RICE MACT). The RICE MACT requires operation and maintenance practices to maintain compliance and to remain classified as an existing emergency engine. EG-001 is denoted as an emergency generator in the underlying permit, an existing emergency stationary compression ignition reciprocating internal combustion engine in the RICE MACT, and an emergency diesel engine within the Title V permit.

Monitoring & Recordkeeping
The RICE MACT requires the unit be equipped with a non-resettable hour meter and operated to minimize engine's time spent starting up and idling. RICE MACT record requirements include notification records, maintenance records, malfunction records, oil analysis program records, reasons for operation, and annual hours of operation. Fuel certifications for each shipment of diesel are required to be kept. Monthly observations of the presence of visible emissions from the unit are required any month the engine operates. Proper operation and maintenance of the engine is expected to result in compliance with the applicable requirements. Considering the above and the unit's intermittent operation, the monitoring is sufficient to assure compliance.

Streamlined Requirements
None

Raw Material Handling

Limitations
Raw Material Handling units are covered by the underlying 8/15/13 permit document. The main storage silos (RMC-001, RMA1-001 & RMA2-002) are controlled by fabric filters that are subject to the visible emission limit of 5 percent opacity and particulate emission (PM/PM10) limits of 0.01 grain/dscf as stated in the Facility Wide Conditions section. The raw material handling day bins (RMC-101, RMC-201, RMA1-101, RMA2-101, RMA2-201) are required to operate with no visible emissions to ambient air from the day bin fabric filters vented inside a building and batch vessels (RMC-102, RMC-202, RMA1-102, RMA1-201, RMA2-102, RMA2-202) are required to operate with no visible emissions to ambient air from the bin vents or batch vessel building. The Additive 3 Production Facility shall be a closed vent system that does not ship more than 328,500 gallons of ethanol off-site for any consecutive 12-month period.

Monitoring & Recordkeeping
The main silo fabric filters (BH-1, BH-2, BH-3) are subject to monthly visible emission observations and weekly differential pressure gauge readings as stated in the Facility Wide Conditions section of this permit. Furthermore, the Facility Wide Conditions section requires a monthly visual survey of the facility for presence of visible emissions from process buildings (which includes the batch vessel building) and the silica sand handling and processing. Records of gallons of ethanol shipped off-site, maintenance schedules, operating procedures, training of operators and the manufacturer's recommended ranges for differential pressure are maintained on-site. The facility has performed weekly differential pressure gauge readings for approximately 5 years; within that timeframe, historical data demonstrates low variability in the fabric filter differential pressure gauge operating range. Consistent differential pressure readings within manufacturer's recommendations, maintenance records, and compliant observations of visible emissions indicate properly maintained and operated fabric filters. Properly maintained and operated equipment is expected to comply with the limitations of this section. Therefore, the monitoring described in this section to indicate proper operation and maintenance is sufficient to assure compliance.

Streamlined Requirements
Condition 2 of the 8/15/13 permit document, a general reference requiring equipment to be operated in accordance with NSPS OOO, is not included because all applicable NSPS OOO requirements are included in the Title V permit.
Units RMS-001, RMS-101, RMS-102, RMS-103, RMS-201, RMS-202, and RMS-203 are subject to 40CFR60 Subpart OOO (NSPS OOO) that establishes fugitive opacity limits of 10 percent and 15 percent. The NSPS OOO fugitive opacity limits were streamlined due to underlying permit Condition 20, requiring no visible emissions from silica sand handling from receiving until the silica is bound with cement, being more stringent.
NSPS OOO initial visible emissions evaluation (VEE) requirements have been satisfied and are not included in the Title V permit.
Condition 4 of the underlying permit document dated 8/15/13 was modified by removing 'sand'

because it was referenced in error (sand day bins do not exist at the facility).

Production Lines 1 & 2

Limitations
Production lines 1 & 2 (PL-1 & PL-2) are covered by the underlying 8/15/13 permit. Manufacturing of panels and planks from the PL-1 & PL-2 are limited to 683,280 tons/yr net dry weight product based on maximum capacity production of cured panels and planks. Emission limits for VOC from a release agent (non-stick EPS) and isopropyl alcohol (IPA) are based on material balance (100% evaporation). The non-stick EPS and IPA are applied within a building and not considered sources of particulate matter.

Monitoring & Recordkeeping
Records to be kept are annual production of panels and planks by dry weight, monthly and annual VOC material balances (i.e. 100% evaporation), and approved vendor information of VOC and HAP content for coating, ink, thinning, and cleaning products as stated in the underlying 8/15/13 permit. This monitoring is sufficient to assure compliance.

Streamlined Requirements
None

Finishing lines, Color Plus lines, Heritage line & MCT lines

Limitations
The Finishing lines (FL-1 & FL-2), Color Plus lines (CPL-1 & CPL-2), Heritage line (HL-1) and MCT lines (MCT-1 & MCT-2) are covered by the underlying 8/15/13 permit. Coating application units include roll coaters (FL-102, FL-202, CPL-104, CPL-204, HL-103, HL-105), curtain coaters (CPL-107, CPL-207) and spray booths (FL-104, FL-204, CPL-103, CPL-203, HL-107, MCT-145, MCT-146). In addition, the Color Plus Lines 1 & 2 and Heritage Line operate an ink jet printing processes (CPL-109, CPL-209, HL-109).

Coating applications on lines CP-1, CP-2, HL-1, MCT-1 & MCT 2 are to control particulate matter emissions by dry filter. These units are subject to particulate matter (PM10/PM2.5) limits of 0.05 grain/dscf. All coatings from the lines MCT-1, MCT-2, CPL-1, CPL-2, and HL-1 are subject to a VOC content limitation not to exceed 0.16 lb_{VOC} / $gallon_{coating\ as\ applied.}$ Ink jet printing processes (including cleaning) used by CPL-1, CPL-2 and HL-109 are subject to an annual VOC limit of 2.4 tons/yr. Coating release agent Frekote used by FL-1, FL-2, CPL-1 and CPL-2 are subject to an annual VOC limit of 2.3 tons/yr. VOCs are to be properly handled and disposed of to minimize emissions in accordance with the Facility Wide Condition section.

The MCT Lines $CaCO_3$ silo (MCT-101) and $CaCO_3$ hoppers (MCT-113, MCT-130) are to be controlled by bin vent filter, while the MCT Lines' grinding and extruder equipment (MCT-107,

MCT-112, MCT-113, MCT-114, MCT-115, MCT-124, MCT-129, MCT-130, MCT-131, MCT-132, MCT-151, MCT-152) are to be controlled by fabric filters that are subject to a particulate matter (PM/PM10) standard, opacity limit, and proper operation and maintenance requirements as stated in the Facility Wide Conditions section. MCT Line raw material handling equipment not covered by Conditions 29 and 30 (MCT-102, MCT-103, MCT-104, MCT-105,MCT-108, MCT-109, MCT-110, MCT-111) are to be vented within a building and subject to the Facility Wide Condition that requires no visible emissions from any process buildings.

The Heritage Line sawing (HL-110) is to be controlled by a fabric filter and is subject to a Compliance Assurance Monitoring (CAM) plan that will be further discussed in the Monitoring section.

The Heritage Line board throughput is limited to 152,000,000 ft^2 on a 12 month basis. The Heritage Line wet cutting station (HL-102) is within a building and limited to particulate matter (PM10/PM2.5) emissions of 1.8 lbs/hr.

Monitoring & Recordkeeping
Monthly observations for the presence of visible emissions from the fabric filters controlling MCT Line equipment and bin vent filters controlling the $CaCO_3$ silo and hoppers are required to be performed, and the fabric filters must be equipped with a differential pressure gauge that is observed weekly as stated in the Facility Wide Conditions section. Differential pressure gauges are required to be operated by manufacturer's recommendations including established differential pressure ranges which are maintained on-site. Particulate matter generating MCT Line equipment not controlled by bin vents or fabric filter must be vented inside a building, and the building is required to be observed monthly for visible emissions per the visual survey plan condition within the Facility Wide Conditions section. The Heritage Line wet cutting station building is subject to the visual survey plan. Records to be kept include annual throughput of boards through the Heritage Line and material balances (i.e. 100 percent evaporation) of VOC from coatings, inks, thinning and cleaning solution usages. All process equipment and air pollution control equipment are required to be properly maintained and operated, demonstrated by maintenance schedules, written operating procedures and operator training. Properly maintained and operated fabric filters, dry filters, roll coaters and curtain coaters are expected to meet the applicable emission limits. Fabric filters[1] operated within manufacturer's recommendations with compliant visible emission observations are sufficient indicators of proper operation and maintenance. Proper operation and maintenance indicates compliance with emission and opacity limits. The above monitoring is sufficient to assure compliance.

The Heritage Line saw room fabric filter is subject to Compliance Assurance Monitoring (CAM). The fabric filter is expected to provide particulate matter controls of 0.01 grains/dscf

[1] The MCT Line process began construction in January 2014 and no notification of MCT Line startup has been received, thus no historical data for MCT Line fabric filters are available

when properly maintained and operated. The facility submitted a CAM plan that continuously utilizes a bag leak detector and differential pressure gauge to provide parametric data to demonstrate proper fabric filter operation. Proper bag leak detector and differential pressure gauge settings and indicator ranges are maintained by the facility. Due to manual daily instantaneous observations of the magnehelic gauge and an activated bag leak detector alarm that shuts down the Heritage Line saw room operation, an appropriate threshold for requiring implementation of a quality improvement plan (QIP) was established as no more than 15 excursions during a semiannual period; excursions are defined as any single differential pressure observation not within the established indicator range (3-5 inches of water) or an activated alarm of the bag leak detector. The 15 excursions per semiannual period limit is expected to adequately allow the facility to perform corrective actions, review operation and maintenance criteria, and assure good air pollution control practices in order to assure compliance. The monitoring satisfies CAM requirements.

Streamlined Requirements
Condition 35 of the underlying permit document dated 8/15/13 was modified to include applicable unit references for clarification of the underlying permit's intention.

Soffit Line

Limitations
All limitations for the Soffit Line were covered by the underlying 8/15/13 permit. The throughput of soffit boards is limited to 9,460,800 punched soffit boards per year, which is part of the facility production limit for panels and planks of Production Lines 1 & 2. The hydraulic press is to be controlled by a fabric filter. The fabric filter is subject to particulate matter (PM/PM10) emission limits, opacity limit, and differential pressure gauge installation and operation requirement of the Facility Wide Conditions.

Monitoring & Recordkeeping
The fabric filter is to be observed monthly for the presence of visible emissions and weekly for differential pressure gauge readings as stated in the Facility Wide Conditions section. The Facility Wide Conditions section requires process and air pollution control equipment to be properly maintained and operated. A properly maintained and operated fabric filter is expected to comply with particulate matter and opacity limits, and operate within the manufacturer's suggested differential pressure operating range. . The facility has performed weekly differential pressure gauge readings for approximately 5 years; within that timeframe, historical data demonstrates low variability and consistent operation within manufacturer's suggested differential pressure gauge operating range. Historical data, maintenance records, and compliant visible emission observations are adequate indicators of a properly maintained and operated fabric filter. Records of soffit board throughput are required to be kept. Considering the above, monitoring is sufficient to assure compliance.

Streamlined Requirements
None

Gasoline Tank

Limitations
The facility is subject to 40CFR63 Subpart CCCCCC (MACT 6C) due to a 500 gallon gasoline tank used to store gasoline for use by various on-site pumps. MACT 6C requires the facility to minimize gasoline vapor releases to the atmosphere for extended durations, and operate and maintain equipment in manners consistent with safety and good practices for minimizing emissions and spills. The Facility Wide Condition section requires proper handling, storage, and disposal of VOCs from the gasoline tank.

Monitoring & Recordkeeping
MACT 6C requires throughput records of gasoline (in gallons on a monthly basis) to be provided within 24 hours of being requested. No notifications or reports are required for MACT 6C at this time. The Facility Wide Condition section of this permit requires proper maintenance and operation procedures including development of maintenance schedules, available operating procedures and proper training of operators. Gasoline tank throughput records with the procedural maintenance, operation, and training requirements are sufficient to assure compliance with the Title V permit.

Streamlined Requirements
None

Facility Wide Conditions

Limitations
All facility wide conditions covered by the underlying 8/15/13 permit are included. Facility wide approved fuel is natural gas with the exception of diesel fuel for the emergency diesel engine, and natural gas combustion is limited to 1,500 million cubic feet per year. A PM/PM10 emission limit condition and visible emission limit condition that apply to multiple fabric filters and bin vents were placed in the Facility Wide Conditions section. All permitted fabric filters are required to be equipped with continuous differential pressure gauges and visible emissions are limited to 5 percent opacity. Process buildings shall have no visible emissions. Appropriate fugitive dust/emission control and proper handling and disposal of VOC are required.

Monitoring & Recordkeeping
The facility is required to perform and document monthly observations for the presence of visible emissions from process buildings and equipment subject to Condition 20. Weekly observations of differential pressure are required for all fabric filters vented to ambient air.

Monthly observations for the presence of visible emissions are required for all fabric filters vented to ambient air and bin vent filters controlling the CaCO3 silo and hoppers. Proper maintenance and operation of air pollution control equipment and process equipment is required as demonstrated by maintenance schedules, written operating procedures (based on manufacturer's recommendations) and training of operators. The facility maintains documentation of the manufacturer's recommended differential pressure ranges[2]. Differential pressure gauges operating within established ranges and compliant visible emissions observations are indicators of properly maintained and operated fabric filters. Properly maintained and operated fabric filters are expected to comply with the particulate matter emission and opacity limits.. Annual consumption records of total facility[3] natural gas consumption are required to be kept. The monitoring above is sufficient to assure compliance with limitations.

Streamlined Requirements
Condition 18 of the underlying permit document dated 8/15/13 required weekly differential pressure gauge readings of fabric filters vented to the atmosphere. This condition was replaced by the more stringent condition of daily differential pressure gauge readings of fabric filters vented to the atmosphere to assure sufficient monitoring.
Conditions 28 & 37 of the underlying permit document dated 8/15/13 were modified by adding references to include applicable bin vents to the Conditions to clarify the intention of the underlying permit.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Permit Expiration
This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the Code of Virginia, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

[2] Manufacturer's recommendations based on permit application information which includes emails dated 9/24/14 and 10/10/14
[3] The Heritage and MCT lines were permitted after this condition was placed on the facility and are excluded from this limitation. However, James Hardie currently uses true facility-wide consumption records to demonstrate compliance. Nothing precludes James Hardie from beginning to maintain records of Heritage and MCT line consumption and utilizing those records in demonstrating compliance.

Failure/Malfunction Reporting
Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

Permit Modification
This general condition cites the sections that follow:
9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190. Changes to Permits.
9 VAC 5-80-260. Enforcement.
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

Malfunction as an Affirmative Defense
The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition 103 and General Condition 84. For further explanation see the comments on general condition 84.

Asbestos Requirements
The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

FUTURE APPLICABLE REQUIREMENTS

None

INAPPLICABLE REQUIREMENTS

40CFR63 Subpart JJJJJJ – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources does not apply to the facility boilers per 63.11195(e) because they are gas-fired boilers as defined by the Subpart.

40CFR60 Subpart NNN – Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations does not apply to the facility per 60.660(b)(3) because the Additive 3 Production Facility produces ethanol in a batch operation.

40CFR60 Subpart RRR – Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes does not apply to the facility per 60.7000(c)(1) because the Additive 3 Production Facility produces ethanol in a batch operation.

40CFR60 Subpart VV – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced after January 5, 1981, and On or Before November 7, 2006 does not apply to the facility per 60.480(a)(2) because the design capacity of Additive 3 Production Facility is 453 tons per year of ethanol, which is less than the Subparts 1,102 tons per year threshold.

40CFR60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines does not apply to the facility per 60.4200(a)(2) due to the facility reporting May 2, 2005 as the purchase order date for EG-001.

40CFR63 Subpart HHHHHH – Area source paint stripping and miscellaneous surface coating operations does not apply to the facility because it does not utilize the targeted HAP per 63.11170(a)(3).

There are no applicable GHG permitting requirements.

State-Only Enforceable requirements within the underlying 8/15/13 permit were not incorporated into the Title V permit.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110. These units are listed in Condition 70 of the Title V permit.

CONFIDENTIAL INFORMATION

No portions of the Title V application were deemed confidential.

PUBLIC PARTICIPATION

The draft/proposed permit will be place on public notice in the Southwest Times from December 30, 2014 to January 29, 2015.