



**Johns Manville**

*A Berkshire Hathaway Company*

5510 West 12th Street  
Jacksonville, FL 32254  
904 786 0422  
904 786 0213 Fax

Melissa Long, Chief  
City of Jacksonville, Environmental Quality Division /Air Quality Branch  
Ed Ball Building  
214 North Hogan Street, Suite 5000  
Jacksonville, Florida 32202

RE: Johns Manville – Air Operation Permit Renewal Application  
Facility Number 0310334

Ms. Long:

Johns Manville owns and operates an insulation manufacturing facility located at 5510 West 12th Street, Jacksonville, Duval County, FL. The current Federally-Enforceable State Operating Permit (FESOP) for the facility, Permit No. 0310334-009-AF, expires on August 31, 2017. Rule 62-4.090, Florida Administrative Code and Rule 2.1401, Jacksonville Environmental Protection Board, require submittal of a FESOP renewal application at least 60 days prior to expiration of the current permit. In accordance with these rules, Johns Manville is submitting the attached FESOP renewal application.

Through this application process, Johns Manville is requesting two modifications to their existing permit:

1. To reduce the frequency of volatile organic compounds (VOC) compliance testing for Insulation Panel Manufacturing (Emission Unit Id No. 003), as specified in Specific Permit Condition No. 4, from once every two years to once every five years prior to future renewals of this permit.
2. To add language to the permit to specifically allow for occasional trial runs of test products.

Johns Manville's request to reduce the frequency of compliance testing is based on the results of compliance testing and actual annual VOC emissions from the facility. The last ten years of compliance test results are summarized in Table 1. The annual VOC emissions presented in the table are somewhat of a misnomer as they assume, for comparison with the permitted annual VOC emission rate of 100 TPY, that the facility operates at 8,760 hour per year at the measured emission rate which is a very conservative assumption. In fact, as shown in Table 2, actual VOC emissions from the facility have been consistently less than 30 TPY which is well less than the permit limit for VOC of less than 100 TPY. Given that actual facility-wide annual VOC emissions, are consistently well below the permitted VOC emission limit of 100 TPY, Johns

Manville's request to reduce the frequency of compliance testing to once every 5 years appears reasonable.

As indicated above, Johns Manville additionally requests that language be added to the permit to specifically allow performance of occasional trial runs of new products. Specific Condition No. 5 for Emission Unit ID No. 003, already requires that John's Manville maintain records of the use of VOC-containing raw materials and the associated emissions. This permit condition would appear to allow for performance of trial runs by just including the required information in the quarterly report, but Johns Manville would be more comfortable if the permit included specific language allowing them.

If you have questions concerning this application to renew Johns Manville's FESOP or these requests to modify our permit, please contact Daniel Hemsall at [Daniel.Hemsall@jm.com](mailto:Daniel.Hemsall@jm.com) at 904-486-7020, John Dodi at [John.Dodi@jm.com](mailto:John.Dodi@jm.com) at 904-486-7012 or our consultant, Scott McCann at Geosyntec Consultants, Inc. at [smccann@geosyntec.com](mailto:smccann@geosyntec.com) or at 352-275-6354.

Sincerely,

A handwritten signature in blue ink that reads "John M. Dodi".

John Dodi

Plant Manager – Johns Manville - Roofing Systems

cc: S. A. McCann – Geosyntec

Table 1. Summary of VOC Stack Tests Results for Insulation Panel Manufacturing (EU ID No. 003), for the Past 10 Years

Emission Source		Measured Volatile Organic Compound Emission Rate for Respective Test Year							Average (lb/hr)
		2006 (lb/hr)	2007 (lb/hr)	2009 (lb/hr)	2011 (lb/hr)	2012 (lb/hr)	2014 (lb/hr)	2016 (lb/hr)	
Cutting Operation (Emission Unit ID No. 001)	Gang Saw	3.0	3.7	0.5	2.7	2.4	2.1	3.6	2.6
	Edge Trim Saw	6.7	5.8	1.5	8.4	5.5	4.9	4.8	5.4
	Foot Saw	0.4	2.0	0.4	1.7	2.1	1.2	1.8	1.4
Insulation Panel Manufacturing (Emission Unit ID No. 003)	Pour Table Vent	1.5	1.3	1.0	1.8	3.4	3.1	4.7	2.4
	Laminator	1.8	1.4	1.6	0.8	1.4	1.1	1.2	1.3
Total	(lb/hr)	13.4	14.2	5.0	15.4	14.8	12.4	16.1	13.0
	(TPY) <sup>a</sup>	59	62	22	67	65	54	71	57
Facility-Wide Permitted VOC Emission Rate	(TPY)	100	100	100	100	100	100	100	100

Note:

<sup>a</sup>Annual emission rates are conservatively calculated for each year by assuming 8,760 hours of operation at the measured hourly emission rate and are presented only for comparison to permitted emission limits and are not representative of actual emissions based on operating hours and raw material usage rates.



*Prepared for:*

**Johns Manville Corporation  
5510 West 12<sup>th</sup> Street  
Jacksonville, Florida**

**NON-TITLE V  
AIR OPERATION PERMIT RENEWAL  
APPLICATION**

**Facility Location: 5510 West 12<sup>th</sup> Street  
Jacksonville, Florida**

*Prepared by:*

**Geosyntec**   
consultants

engineers | scientists | innovators

6241 Northwest 23<sup>rd</sup> Street, Suite 200  
Gainesville, Florida 32653

Project Number: FE3054

May 2017



# Department of Environmental Protection

## Division of Air Resources Management

### APPLICATION FOR NON-TITLE V AIR PERMIT RENEWAL

See Instructions for Form No. 62-210.900(4)

#### I. APPLICATION INFORMATION

##### Identification of Facility

1. Facility Owner/Company Name: <b>Johns Manville</b>	
2. Site Name: <b>Johns Manville – Jacksonville Operations</b>	
3. Facility Identification Number: <b>0310334</b>	4. Facility Status Code: <b>A</b>


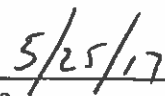
##### Application Contact

1. Name and Title of Application Contact:  <b>Daniel Hempsall, CSP, SGE – Regional Health &amp; Safety Specialist – Roofing Systems</b>	
2. Application Contact Mailing Address:  Organization/Firm: <b>Johns Manville</b> Street Address: <b>5510 West 12<sup>th</sup> Street</b> City: <b>Jacksonville</b> State: <b>FL</b> Zip Code: <b>32254</b>	
3. Application Contact Telephone Numbers: Telephone: <b>(904) 482- 7020</b> Fax: <b>(904)786-0213</b>	
4. Application Contact E-mail Address: <b>Daniel.Hempsall@jm.com</b>	

##### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	

**Owner/Authorized Representative**

1. Name and Title of Owner/Authorized Representative:  <b>John Dodi, Plant Manager</b>
2. Owner/Authorized Representative Mailing Address:  Organization/Firm: <b>Johns Manville</b> Street Address: <b>5510 West 12<sup>th</sup> Street</b> City: <b>Jacksonville</b> State: <b>FL</b> Zip Code: <b>32254</b>
3. Owner/Authorized Representative Telephone Numbers: Telephone: <b>(904) 486-7012</b> Fax: <b>(904) 786-0213</b>
4. Owner/Authorized Representative E-mail Address: <u>dodij@jm.com</u>
5. Owner/Authorized Representative Statement:  <i>I, the undersigned, am the owner or authorized representative* of the facility addressed in this Application for Air Permit. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>  <div style="display: flex; justify-content: space-between;"><div style="text-align: center;"> _____ Signature</div><div style="text-align: center;"> _____ Date</div></div>

\* Letter of authorization is presented as Attachment JM-FI-AU.

**ATTACHMENT JM-FI-AU**

**LETTER OF AUTHORIZATION**





In the Matter of signature certification requirements;

For: Air Emission Permit(s), Wastewater Discharge Permits, Stormwater Discharge Plans and Reports, Community Right-to-Know Reporting, Solid and Hazardous Waste Generation reports, Spill Prevention & Countermeasure Plans

For the Johns Manville Facility  
Located in Jacksonville, Florida  
at 5510 West 12th Street  
Jacksonville, Florida 32254

Let it be known that Robert Wamboldt, Sr. VP and GM of Roofing Systems, Johns Manville, hereby authorizes John Dodi, Plant Manager for the Johns Manville plant in Jacksonville, Florida, to act as a duly authorized representative with full authorization to sign all applications, plans and certifications relating to air emissions permitting and reporting, wastewater discharge permitting and reporting, stormwater discharge and reporting, solid and hazardous waste generation reporting, spill prevention control and countermeasures and Community Right-to-Know reporting as they are required under Federal, Florida, or local regulations for this industrial establishment. John Dodi has the responsibility for the overall operation of the facility.

Robert Wamboldt, Sr. VP and GM of Roofing Systems, Johns Manville

Signature

A handwritten signature in black ink, appearing to read 'R. Wamboldt', written over a horizontal line.

Date

3/3/15

**Scope of Application**

<b>Emissions Unit ID</b>	<b>Description of Emissions Unit</b>	<b>Permit Type</b>	<b>Processing Fee</b>
001	Cutting Operation	AF2A	\$1,000
003	Insulation Panel Manufacturing	AF2A	\$1,500

**Application Processing Fee**

Check one: ☒ Attached - Amount: **\$2,500**    ☐ Not Applicable

**Application Comment**

Through this permitting action, Johns Manville is requesting renewal of its current Synthetic Minor Air Operation Permit (Permit Number 0130334-009-AF). Through this permitting action, Johns Manville is additionally requesting the following modifications to their permit:

1. Reduction of the compliance test frequency specified in their current Air Operation Permit from once every two years to once during the calendar year proceeding renewal of their Air Operation Permit. Justification for this request is presented in Attachment JM-FI-AC of this application.
2. Johns Manville occasionally has the need to perform trial runs to access new products. Johns Manville requests that the following or similar language be added to their permit to allow performance of these trial runs. "Johns Manville may, on an as-needed basis, perform trial runs of new products. For each VOC-containing raw material used during these trial runs, the maximum VOC content of the raw material must be multiplied by its respective usage rate and the result directly added to the 12-month rolling total VOC emission rate. Safety Data Sheets for the raw materials used during these trial runs must be maintain and be available upon request".

# **ATTACHMENT JM-FI-AC**



**Johns Manville**

*A Berkshire Hathaway Company*

5510 West 12th Street  
Jacksonville, FL 32254  
904 786 0422  
904 786 0213 Fax

Melissa Long, Chief  
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Facility Number 0310334

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If you have questions concerning this application to renew Johns Manville's FESOP or these requests to modify our permit, please contact Daniel Hemsall at [Daniel.Hemsall@jm.com](mailto:Daniel.Hemsall@jm.com) at 904-486-7020, John Dodi at [John.Dodi@jm.com](mailto:John.Dodi@jm.com) at 904-486-7012 or our consultant, Scott McCann at Geosyntec Consultants, Inc. at [smccann@geosyntec.com](mailto:smccann@geosyntec.com) or at 352-275-6354.

Sincerely,

A handwritten signature in blue ink that reads "John M. Dodi".

John Dodi

Plant Manager – Johns Manville - Roofing Systems

cc: S. A. McCann – Geosyntec

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		2006 (lb/hr)	2007 (lb/hr)	2009 (lb/hr)	2011 (lb/hr)	2012 (lb/hr)	2014 (lb/hr)	2016 (lb/hr)	
Cutting Operation (Emission Unit ID No. 001)	Gang Saw	3.0	3.7	0.5	2.7	2.4	2.1	3.6	2.6
	Edge Trim Saw	6.7	5.8	1.5	8.4	5.5	4.9	4.8	5.4
	Foot Saw	0.4	2.0	0.4	1.7	2.1	1.2	1.8	1.4
Insulation Panel Manufacturing (Emission Unit ID No. 003)	Pour Table Vent	1.5	1.3	1.0	1.8	3.4	3.1	4.7	2.4
	Laminator	1.8	1.4	1.6	0.8	1.4	1.1	1.2	1.3
	(lb/hr)	13.4	14.2	5.0	15.4	14.8	12.4	16.1	13.0
Total	(TPY) <sup>a</sup>	59	62	22	67	65	54	71	57
Facility-Wide Permitted VOC Emission Rate	(TPY)	100	100	100	100	100	100	100	100

Note:

<sup>a</sup>Annual emission rates are conservatively calculated for each year by assuming 8,760 hours of operation at the measured hourly emission rate and are presented only for comparison to permitted emission limits and are not representative of actual emissions based on operating hours and raw material usage rates.

Table 2. Summary of Facility-Wide Annual VOC Emission Rate Compliance Documentation for the Last 10 years

Emission Source		Reported Facility-Wide Volatile Organic Compound Emission Rate for Respective Year												Average (TPV)
		2006 (TPV)	2007 (TPV)	2008 (TPV)	2009 (TPV)	2010 (TPV)	2011 (TPV)	2012 (TPV)	2013 (TPV)	2014 (TPV)	2015 (TPV)	2016 (TPV)		
Primary Emission Units	Foam Head	4.08	2.00	1.97	1.00	1.43	2.32	2.79	4.56	5.40	6.34	9.37	3.75	
	Laminator Chamber	1.12	2.29	2.20	1.49	1.68	1.53	1.18	1.88	1.99	2.23	3.00	1.87	
	Process Cutting (on-line)	15.55	13.77	13.88	3.12	10.56	12.56	8.42	5.06	6.39	9.59	10.48	9.94	
	Process Cutting (off-line)	0.04	0.02	0.03	0.01	0.02	1.96	2.06	2.78	2.22	2.74	4.58	1.50	
	Laminator Furnace	0.17	0.25	0.23	0.03	0.03	0.03	0.01	0.01	0.02	0.02	0.02	0.08	
Exempt Emission Units	Warehouse	0.08	0.07	0.12	0.12	0.17	0.19	0.20	0.33	0.41	0.50	0.46	0.24	
	Parts Cleaning	0.03	0.03	0.03	0.03	0.03	0.04	0.00	-	-	-	-	0.02	
	Other Combustion Sources	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.02	0.02	0.02	0.01	
	Polyol Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MDI Storage Tanks	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.16	
	Pentane Fugitive Loss	-	-	-	-	0.19	0.12	0.30	0.12	0.12	0.21	0.12	0.09	
Total Emission Rate		21.24	18.59	18.62	5.96	14.28	18.96	14.94	14.93	16.75	21.81	28.20	17.66	
Facility-Wide Permitted VOC Emission Rate		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	

Notes:

\* Annual emission rates are conservatively calculated for each year by assuming 8,760 hours of operation at the measured hourly emission rate and are presented only for comparison to permitted emission limits and are not representative of actual emissions based on operating hours and raw material usage rates.

## II. FACILITY INFORMATION

### Facility Contact

1. Name and Title of Facility Contact: <b>Daniel Hemsall, CSP, SGE – Regional Health &amp; Safety Specialist – Roofing Systems</b>
2. Facility Contact Mailing Address: Organization/Firm: <b>Johns Manville</b> Street Address: <b>5510 West 12<sup>th</sup> Street</b> City: <b>Jacksonville</b> State: <b>FL</b> Zip Code: <b>32254</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(904) 482-7020</b> Fax: <b>(904) 786-0213</b>
4. Facility Contact E-mail Address: <u><b>Daniel.Hemsall@jm.com</b></u>

### **Facility Supplemental Requirements**

1. Area Map Showing Facility Location: [X] Attached, Document ID: <u>JM-FI-1</u> [ ] Not Applicable [ ] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: <u>JM-FI-2</u> [ ] Not Applicable [ ] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: <u>JM-FI-3</u> [ ] Not Applicable [ ] Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: [X] Attached, Document ID: <u>JM-FI-4</u> [ ] Not Applicable [ ] Waiver Requested

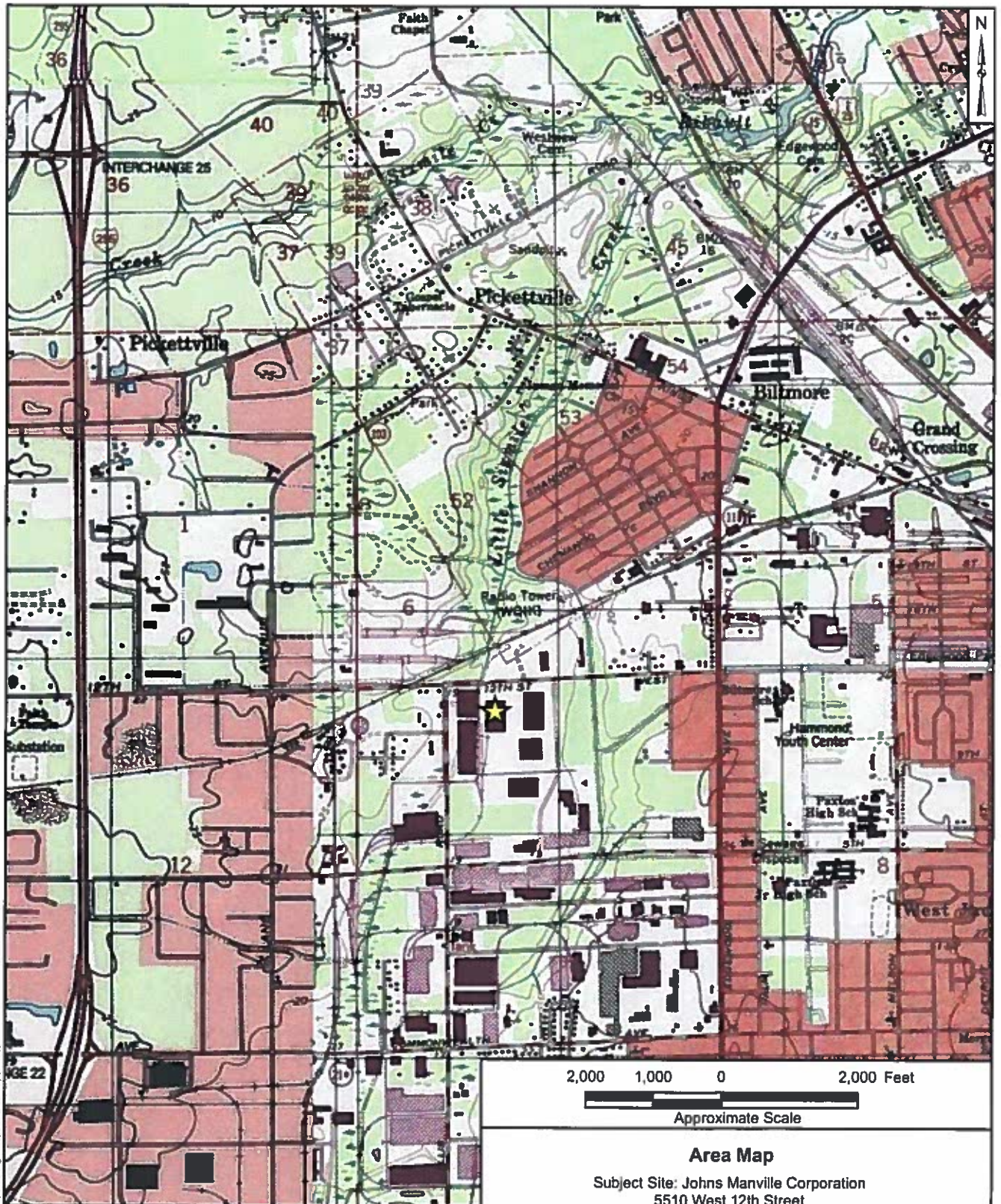
### Facility Comment

[illegible]



# **ATTACHMENT JM-FI-1**

## **AREA MAP**



**Legend**



Facility Location

**Notes:**

1. 2015 topographic map obtained from USDA's Geospatial Data Gateway online.

2,000 1,000 0 2,000 Feet

Approximate Scale

**Area Map**

Subject Site: Johns Manville Corporation  
5510 West 12th Street  
Jacksonville, Florida

**Geosyntec**  
consultants

Attachment

**JM-FI-1**

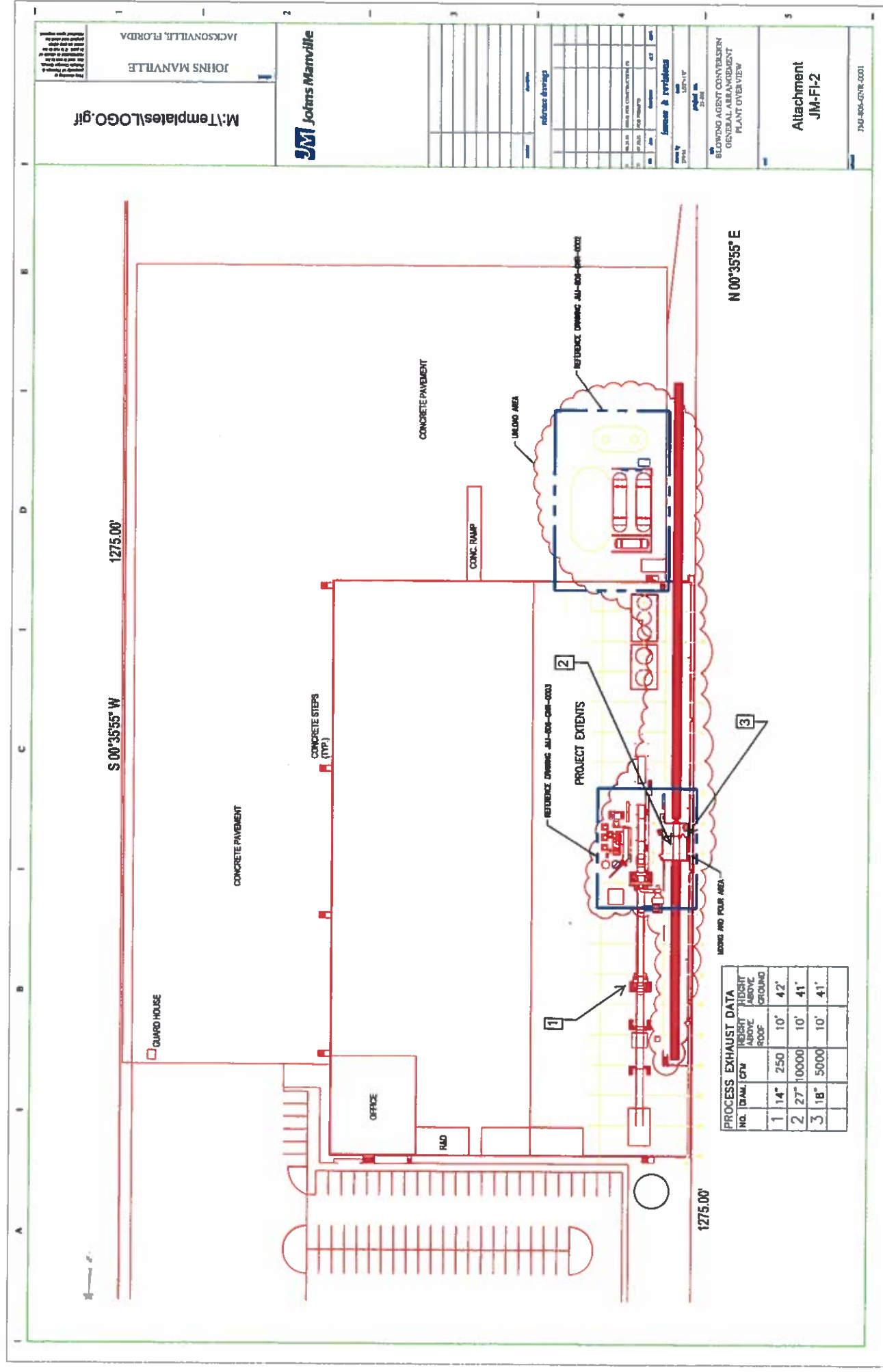
Boca Raton, FL

May 2017

**ATTACHMENT JM-FI-2**

**FACILITY PLOT PLAN**





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JOHNS MANVILLE

JACKSONVILLE, FLORIDA



Revision		By	Date
1	Initial		
2	Revised		
3	Revised		
4	Revised		
5	Revised		
6	Revised		
7	Revised		
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Blowing Agent Conversion  
General Arrangement  
Plant Overview

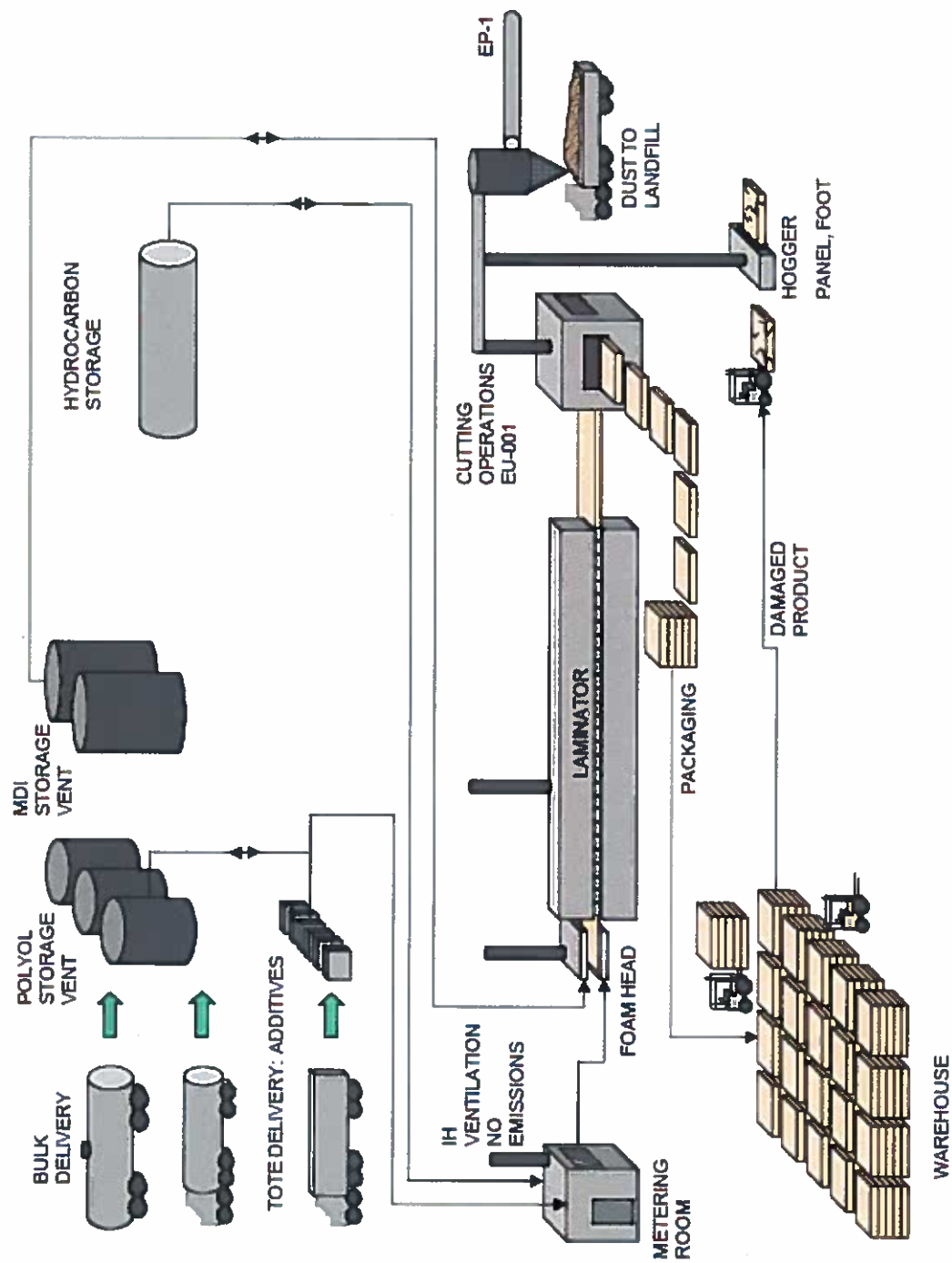
Attachment  
JM-FI-2

1341-802-CENR-0001

PROCESS EXHAUST DATA				
NO.	TOTAL CFM	HEIGHT ABOVE ROOF	HEIGHT ABOVE GROUND	
1	14"	250	10'	42'
2	27"	10000	10'	41'
3	18"	5000	10'	41'

**ATTACHMENT JM-FI-3**

**PROCESS FLOW DIAGRAM**



# Process Flow Diagram

Johns Manville Corporation  
5510 West 12<sup>th</sup> Street, Jacksonville, Florida

Geosyntec  
consultants

Boca Raton, FL

May 2017

Attachment

JM-FI-3

## **ATTACHMENT JM-FI-4**

### **PRECAUTIONS TO PREVENT UNCONFINED PARTICULATE MATTER**

## **ATTACHMENT JM-FI-4**

### **PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER**

Particulate matter (PM) is generated during sawing and bad product breakdown. Johns Manville has taken precautions to prevent emissions of unconfined PM from these operations as described below.

PM emissions from the sawing operations are controlled with a cyclone/baghouse control device. PM emissions from bad product breakdown at the hogger are also controlled using the cyclone/baghouse control device. After breakdown in the hogger, baled waste is handled in an enclosed environment (enclosed conveyors and loadout area).

Roads and parking areas at the facility are paved.



Emissions Unit ID: 001

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section must be completed for each emissions unit addressed in this Application for Non-Title V Air Permit Renewal. If submitting the form in hard copy, indicate, in the space provided at the top of each page, the Emissions Unit ID of the emissions unit addressed on the page, as given in the unit's most current air operation permit.

#### Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Cutting Operation</b>	
2. Emissions Unit Status Code: <b>A</b>	3. Long-Term Reserve Shutdown Date:
4. Control Equipment Method/Description (limit to 200 characters per device or method): <b>Fabric filter dust collector manufactured by Mikro-Pulsaire (Model No. 224-TRW-10) with cyclonic inlet for control of particulate matter.</b>	

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	mmBtu/hr	
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate: <b>370 x 10<sup>6</sup> board feet per year</b>		
4. Maximum Production Rate:		
5. Requested Maximum Operating Schedule:		
	<b>24 hours/day</b>	<b>7 days/week</b>
	<b>52 weeks/year</b>	<b>8,760 hours/year</b>

**Emissions Unit ID: 001**

**Emissions Unit Supplemental Requirements**

1. Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
2. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Not Applicable [X] Previously submitted, Date: <u>March 2016</u>
3. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Operation and Maintenance Plan [X] Attached, Document ID: <u>JM-EU1-4</u> [ ] Not Applicable [ ] Waiver Requested
5. Other Information Required by Rule or Statute [X] Attached, Document ID: <u>JM-EU1-5</u> [ ] Not Applicable

**Emissions Unit Comment**

Attachment JM-EU1-5 includes compliance record keeping documentation.
---

**ATTACHMENT JM-EU1-4**

**OPERATION AND MAINTENANCE PLAN**

**JOHNS MANVILLE INTERNATIONAL**  
**OPERATION AND MAINTENANCE PLAN**

Emission Unit Description: \_\_\_\_\_  
(Please List EU No.)

**Control Equipment Specifications**

Manufacturer: \_\_\_\_\_ Design Air Flow: \_\_\_\_\_ CFM

Model Number: \_\_\_\_\_ Air to Cloth Ratio: \_\_\_\_\_

Type: Dust Collector Bag Material: \_\_\_\_\_

Cleaning Mechanism: Pulse Jet ☐ Reverse Air ☐ Mechanical ☐ Other ☐ Please describe:

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**MONTHLY CHECK**

Check appropriate box(es) and describe action taken, including date, under comments

Date of Inspection: \_\_\_\_\_ Inspector's Name: \_\_\_\_\_

Fan: Good condition ☐ Maintenance Performed ☐

Bags: Good condition ☐ Need repair or replacement ☐

Baghouse Structure: Good condition ☐ Needs repair ☐

Baghouse Clean Air Side: Clean ☐ Light Dust ☐ Heavy Dust ☐

Comments: \_\_\_\_\_

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**ATTACHMENT JM-EU1-5**

**OTHER INFORMATION REQUIRED BY  
RULE OR STATUTE**

## JOHNS MANVILLE - JACKSONVILLE, FL PLANT

Enter monthly usage/production for each item below. 2016

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
580N Polymeric MDI (lbs)	2,151,840.49	1,784,598.0	2,217,966.4	2,235,924	2,108,537	2,280,095.7	2,356,787.9	2,356,049.1	2,203,682.3	2,210,268.6	2,393,179.1	1,955,909.1
Terate® HT5502.15 Aromatic Polyester Polyol (lbs)	1,254,195.32	1,056,532.0	1,305,925.7	1,323,585	1,252,125	1,361,322.1	1,326,259.1	1,317,116.1	1,219,313.7	1,243,636.76	1,342,678.3	1,097,719.9
Potassium Hex-Cem 977 (lbs)	68,785.4	60,925.0	72,965.1	74,384	69,342	77,198.8	81,905.7	77,050.6	74,358.8	74,442.92	79,942.8	64,553.5
10% Potassium Acetate (lbs)	13,890.0	11,387.0	13,641.6	13,448	12,790	14,485.2	18,002.0	12,019.7	14,943.0	14,082.91	15,559.5	12,779.4
Polycat 5 Catalyst (lbs) Amine	3,117.4	2,717.0	4,029.7	3,399	3,070	3,471.0	3,378.9	3,870.0	2,289.1	2,752.31	2,955.51	2,434.2
Vorasurf 504 Surfactant (lbs)	22,512.1	17,650.0	22,123.7	22,130	20,689	22,374.3	21,672.2	22,166.6	20,408.3	20,307.11	22,023.2	17,795.1
n-Pentametisopentane Blend(lbs)	268,708.6	224,065	273,084.6	269,906	254,472	285,764.3	295,336.2	288,179.1	274,142.7	277,610.56	306,387.7	241,666.1
Accubond 7-0251 Blue (lbs)	50.0	25.0	0.0	0.0	0.0	0.0	25.0	50.0	50.0	50.0	0.0	0.0
Accubond 2-0157 Green (lbs)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insulation Produced (boardfeet)	25,788,746.6	21,769,363	26,197,909.6	26,577,702	24,797,755	27,787,023.0	28,174,513.2	28,344,821.4	26,911,354.4	26,342,024.4	29,526,973.6	22,559,043.2
Therm	11,546.3	16,517.2	11,471.4	6,671.1	3,537.7	263.8	534.7	615.9	272.4	464.7	1,051.7	6,164.3
Therm to MMCF conversion	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05	9.7E-05
Laminator Gas Consumption (mmcf)	1.1	1.6	1.1	0.6	0.3	0.0	0.1	0.1	0.0	0.0	0.1	0.6
Warehouse Storage Inventory (boardfeet)	9,500,000.0	9,000,000.0	14,500,000.0	12,500,000.0	9,800,000.0	10,000,000.0	11,500,000.0	9,500,000.0	11,000,000.0	5,000,000.0	7,800,000.0	8,000,000.0

Fugitive loss pentane unloading	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1st Qtr	2nd Qtr	3rd qtr	4th Qtr	Annual
Pentane release (gallons)	4	4	4	4	4	4	4	4	4	4	4	4	4	12	12	12	48
Pentane density (lbs / gallon)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Pentane released (tons / month)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.12

Prepared to support recordkeeping and reporting requirements specified in Section III for Emission Unit No. 003 in paragraph 5b of Permit No. 0310334-009-AF

Specifically, this requirement states the owner/operator shall maintain monthly records of the amount of all VOC-containing products used (gallons).

[illegible]





Leachwater Emissions Calculation																	
VOC Emissions (t/mo) = Emission Factor (lb/mm of gas) X Monthly Gas Consumption (mm of gas/mo) X 0.0005 (lb)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
VOC Emission Factor (lb/mm)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5					
Emission Factor Reference	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4	AP42 Section 1.4					
Monthly Gas Consumption (mm/mo)	1.124	1.608	1.117	0.649	0.344	0.026	0.052	0.050	0.027	0.045	0.102	0.600	1.448	1.219	0.128	0.7	5.75
VOC Emissions (t/mo)	0.003	0.004	0.003	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.01	0.01	0.00	0.00	0.0156
Wastewater Emissions Calculation																	
VOC Emissions (t/mo) = Emission Factor (lb/bbl) X Monthly Storage Inventory (bbl/mo) X 0.0005 (lb)	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual
VOC Emission Factor (lb/bbl)	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003					
Emission Factor Reference	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App	Permit App					
Monthly Storage Inventory (bbl/mo)	9,500,000.0	9,500,000.0	14,500,000.0	12,500,000.0	10,000,000.0	10,000,000.0	11,500,000.0	9,500,000.0	11,000,000.0	5,000,000.0	7,800,000.0	8,000,000.0	33,000,000.00	32,300,000.00	32,000,000.00	28,000,000.0	118,190,000.0
VOC Emissions (t/mo)	0.037	0.036	0.056	0.048	0.038	0.036	0.044	0.037	0.042	0.019	0.030	0.031	0.13	0.12	0.12	0.08	0.4553
Paint Washer & High Flush Emission Calculations																	
Parts Washer VOC Emissions (t/mo) = [Cleaning Solvent Added (lb) - Cleaning Solvent Recovered (or Disposed (lb)) X 0.0005 (lb)]																	
Head Flush VOC Emissions (t/mo) = [Cleaning Solvent Added (lb) - Cleaning Solvent Recovered (or Disposed (lb)) X 0.0005 (lb)]																	
Total VOC Emissions (t/mo) = Parts Washer VOC Emissions (t/mo) + Head Flush VOC Emissions (t/mo)																	
Advised to remove from EU VOC inventory by Am Smearcase Environmental Manager 2/14/2012. Solvent leaks weather rest of EU 0.001 and EU 0.002																	
Other Combustion Source Emission Calculations																	
There are no other combustion sources located at the plant.																	
Potbl Storage Tank Emission Calculation																	
Losses from storage and handling of potbl are negligible due to the fact that the material is a polymer and has a negligible vapor pressure																	



VOC-Containing Product	Product Density (lb/gal)	Wt. % of VOC	VOC Content (lb/gal)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
580N Polymeric MDI	10.34	100	10.34	X	X	X	X	X	X	X	X	X	X	X	X
Terate HT5502, 15 Areomatic Polyester Poly	10.01	8.15	0.82	X	X	X	X	X	X	X	X	X	X	X	X
Potassium Hex-Cem 977	9.34	100	9.34	X	X	X	X	X	X	X	X	X	X	X	X
10% Potassium Acetate	10.09	100	10.09	X	X	X	X	X	X	X	X	X	X	X	X
Polycat 5 Catalyst	7.09	100	7.09	X	X	X	X	X	X	X	X	X	X	X	X
Vorasurf 504 Surfactant	8.46	100	8.46	X	X	X	X	X	X	X	X	X	X	X	X
n-Pentane/isopentane Blend	5.25	100	5.25	X	X	X	X	X	X	X	X	X	X	X	X
Accubond 7-0251 Blue	9.09	0.9	0.08	X	X		X		X	X	X	X	X		
Accubond 2-0157 Green	9.09	0.9	0.08							X	X	X	X		

**JOHNS MANVILLE - JACKSONVILLE, FL PLANT**

Prepared to support recordkeeping and reporting requirements specified in Section III for Emission Unit No. 003 in paragraph 5a of Permit No. 0310334-005-AF.

Specifically, this requirement states that the owner/operator shall maintain monthly records of insulation produced (boardfeet/month).

**Calendar Year 2016 Insulation Produced (boardfeet/month)**

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Annual
Boft of Insulation Produced	25,788,748.8	21,769,362.8	28,197,909.6	26,577,702.0	24,797,754.8	27,787,023.0	28,174,513.2	28,344,821.4	28,911,354.4	26,342,024.4	29,556,973.6	22,559,043.2	77,756,019.2	79,162,479.6	83,430,659.0	78,428,041.2	314,777,229.2

Calendar Year 2016 VOC Emissions (tons/month)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Annual
<b>Primary Emission Units</b>																	
Foam Head	0.63	0.53	0.64	0.84	0.78	0.87	0.89	0.89	0.85	0.83	0.93	0.71	1.80	2.49	2.62	2.46	9.37
Laminator Chamber	0.22	0.19	0.22	0.26	0.24	0.27	0.28	0.28	0.26	0.26	0.29	0.22	0.63	0.78	0.82	0.77	3.00
Process Cutting (on-line)	0.95	0.80	0.97	0.86	0.80	0.89	0.91	0.91	0.87	0.85	0.95	0.73	2.72	2.55	2.69	2.53	10.48
Process Cutting (off-line)	0.27	0.23	0.28	0.42	0.39	0.44	0.44	0.45	0.42	0.42	0.47	0.36	0.78	1.25	1.32	1.24	4.58
<b>Subtotals</b>	<b>2.07</b>	<b>1.75</b>	<b>2.10</b>	<b>2.37</b>	<b>2.21</b>	<b>2.48</b>	<b>2.51</b>	<b>2.53</b>	<b>2.40</b>	<b>2.35</b>	<b>2.63</b>	<b>2.01</b>	<b>5.92</b>	<b>7.06</b>	<b>7.44</b>	<b>7.00</b>	<b>27.42</b>
<b>Exempt Emission Units</b>																	
Laminator Furnace	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Warehouse	0.04	0.03	0.06	0.05	0.04	0.04	0.04	0.04	0.04	0.02	0.03	0.03	0.13	0.12	0.12	0.08	0.46
Other Combustion Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Petrol Storage Tanks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MDI Storage Tanks	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.17
Pentane fugitive loss	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.12
<b>Subtotals</b>	<b>0.07</b>	<b>0.07</b>	<b>0.09</b>	<b>0.08</b>	<b>0.06</b>	<b>0.06</b>	<b>0.07</b>	<b>0.06</b>	<b>0.07</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.22</b>	<b>0.20</b>	<b>0.20</b>	<b>0.16</b>	<b>0.78</b>
<b>2016 Monthly Grand Totals</b>	<b>2.14</b>	<b>1.81</b>	<b>2.19</b>	<b>2.45</b>	<b>2.28</b>	<b>2.54</b>	<b>2.58</b>	<b>2.59</b>	<b>2.47</b>	<b>2.39</b>	<b>2.68</b>	<b>2.07</b>	<b>6.14</b>	<b>7.27</b>	<b>7.64</b>	<b>7.15</b>	<b>28.20</b>
<b>12-month Rolling Total</b>	<b>17.51</b>	<b>18.07</b>	<b>18.84</b>	<b>20.00</b>	<b>21.07</b>	<b>21.99</b>	<b>23.08</b>	<b>24.29</b>	<b>25.45</b>	<b>26.21</b>	<b>27.48</b>	<b>28.20</b>					

Emissions Unit ID: 003

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section must be completed for each emissions unit addressed in this Application for Non-Title V Air Permit Renewal. If submitting the form in hard copy, indicate, in the space provided at the top of each page, the Emissions Unit ID of the emissions unit addressed on the page, as given in the unit's most current air operation permit.

#### Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Insulation Panel Manufacturing</b>	
2. Emissions Unit Status Code: <b>A</b>	3. Long-Term Reserve Shutdown Date:
4. Control Equipment Method/Description (limit to 200 characters per device or method): <b>None</b>	

#### Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	<b>2.0 mmBtu/hr</b>
2. Maximum Incineration Rate:	<b>lb/hr                      tons/day</b>
3. Maximum Process or Throughput Rate:	<b>370 x 10<sup>6</sup> board feet per year</b>
4. Maximum Production Rate:	
5. Requested Maximum Operating Schedule:	
<b>24 hours/day</b>	<b>7 days/week</b>
<b>52 weeks/year</b>	<b>8,760 hours/year</b>

**Emissions Unit ID: 003**

**Emissions Unit Supplemental Requirements**

1. Fuel Analysis or Specification [X] Attached, Document ID: <u>JM-EU2-1</u> [ ] Not Applicable [ ] Waiver Requested
2. Compliance Test Report [ ] Attached, Document ID: _____ [ ] Not Applicable [X] Previously submitted, Date: <u>March 2016</u>
3. Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4. Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5. Other Information Required by Rule or Statute [X] Attached, Document ID: <u>JM-EU1-5</u> [ ] Not applicable

**Emissions Unit Comment**

Attachment JM-EU1-5 includes compliance record keeping documentation.
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**ATTACHMENT JM-EU2-1**

**FUEL ANALYSIS OR SPECIFICATION**

## ATTACHMENT JM-EU2-1

### FUEL ANALYSIS

Fuel	Density (lb/scf)	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity
Natural Gas	0.048	<0.01	<0.001	0.62	--	1,040 Btu/scf

Notes:

1. BTU = British Thermal Unit
2. lb = pound
3. scf = standard cubic feet