STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0747-AOP-R7 AFIN: 66-00294

1. PERMITTING AUTHORITY:

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Owens Corning Non-Woven Technology, LLC
5520 Planters Road
Fort Smith, Arkansas 72916

3. PERMIT WRITER:

Jesse Smith

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Nonwoven Fabric Mills
NAICS Code: 313230

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
9/26/2022	Modification	Addition of a new mat coating line. New sources are SN-21 through SN-25

6. REVIEWER'S NOTES:

Owens Corning owns and operates a fiberglass mat manufacturing facility at 5520 Planters Road in Fort Smith, Arkansas 72916. The facility uses chopped fiberglass and a chemical binder to produce fiberglass mats primarily for use in the roofing products industry. With this Title V significant modification, the facility has added a mat coating line to the permit (SN-21A through SN-25). These sources include material handling, a curing/drying oven, logo printing operations, and an edge trim line. With this addition, the facility is now subject to NESHAP Subparts KK and JJJJ and applicable conditions have been added. Permitted emissions have increased as follows: 13.8 tpy

PM/PM_{10}/$PM_{2.5}$, 0.2 tpy SO_2, 11.9 tpy VOC, 17.7 tpy CO, 21.0 tpy NO_X, and 0.4 tpy Total HAP.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was last inspected on October 17, 2022. There were no areas of concern noted at this time or on EPA's Echo database.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
If yes, were GHG emission increases significant? N

b) Is the facility categorized as a major source for PSD? N
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-01, SN-11	Formaldehyde	40 CFR Part 63, Subpart HHHH
SN-23	HAP	40 CFR Part 63, Subpart JJJJ
SN-24	HAP	40 CFR Part 63, Subpart KK

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Rule 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A
If not, explain why.

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
N/A		

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The following is from the R6 version of this permit. Line 1 (Existing) and Line 2 (Proposed) were evaluated separately. After Line 2 is built and begins the process of being commissioned, the facility will be limited to produce no more than 55,100 tons/yr (the currently permitted limit for Line 1) for 12 months or less.

Line 1 (Existing)

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value

(mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrylic Acid	5.89	0.648	7.10	No
Formaldehyde	1.50	0.17	6.70	No
Methanol	262.08	28.83	9.10	Yes
Styrene	Emissions < 10 tpy and TLV > 1.0 mg/m^3			
Triethylamine	Emissions < 10 tpy and TLV > 1.0 mg/m^3			

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrylic Acid	58.9	28.66	Yes
Formaldehyde	15.0	39.72	No

Risk Assessment

Acute inhalation exposure guidelines are designed to protect a variety of exposure groups including occupational workers and the general public, and are intended to protect against a variety of toxicity endpoints ranging from discomfort to mild adverse health effects to serious or potentially life threatening effects. The acute inhalation exposure analysis was performed by comparing the modeled 1-hr maximum air concentrations with the appropriate acute toxicity benchmark; in this case the Acute Exposure Guideline Levels (AEGLs) was used.

Pollutant	AEGL-1 ($\mu g/m^3$)	Modeled Concentration ($\mu g/m^3$)	Pass?
Formaldehyde	1107.0	118.37	Yes

Line 2 (Proposed)

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrylic Acid	5.89	0.648	6.16	No
Formaldehyde	1.50	0.17	4.73	No
Methanol	262.08	28.83	10.64	Yes

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrylic Acid	58.9	19.95	Yes
Formaldehyde	15.0	13.59	No

c) H_2S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H_2S Standards Y
If exempt, explain: No H_2S emissions

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)		Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01, 03, 04, 05, 07	Testing		Various	Thermal Oxidizer at SN-01	96% for VOC	Stack Tests dates are from 2003, 2008, 2013 and 2018
11	Oven	Testing from sister facility	7.245 lbs VOC/hr 2.204 lbs CH_2O/hr 0.6412 lbs Methanol/hr	RTO	~98%	Factor of 2 applied to sister facility stack test results
		Testing from Existing Line 1 (Fort Smith)	Acrylic Acid is 1.20 x CH_2O Ammonia is 1.20 x CH_2O Styrene is 0.25 x CH_2O Triethylamine is 0.25 x CH_2O			Based on ratio of pollutant to formaldehyde emissions
	AP-42 Section 1.4 (7/98)		Various: AP-42 Sec. 1.4 for Criteria and HAP			OVEN NAT GAS combustion Max Heat Input 36.74 MW; Heat input based on 3.412 MMBtu/hr per MW; Heating Value 1,026 Btu/scf
	AP-42 Section 1.4 (7/98)		Various: AP-42 Sec. 1.4 for Criteria and HAP			RTO NAT GAS combustion Max Heat Input 4,800 kW; Heat input based on 0.003412 MMBtu/hr per kW; Heating Value 1,026 Btu/scf
	Former/ Saturator Vacuum System and	Testing from Existing Line 1	4.53 lbs PM/PM_{10}/hr 16.24 lbs VOC/hr 1.79 lbs CH_2O/hr 6.2478 lbs Methanol/hr			0.0023 gr/dscf; Factor of 2 applied to sister

SN	Emission Factor Source (AP-42, testing, etc.)		Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Fugitive Emissions	(Fort Smith)				facility stack test results
			Acrylic Acid is 1.20 x CH_2O Ammonia is 1.20 x CH_2O Styrene is 0.25 x CH_2O Triethylamine is 0.25 x CH_2O			Based on ratio of pollutant to formaldehyde emissions
12	Testing from sister facility and existing Line 1 (Fort Smith)		0.48 lbs PM/PM_{10}/hr 9.25 lbs VOC/hr 0.39 lbs CH_2O/hr 1.9786 lbs Methanol/hr			0.0023 gr/dscf; Factor of 2 applied to sister facility stack test results
			Acrylic Acid is 1.20 x CH_2O Ammonia is 1.20 x CH_2O Styrene is 0.25 x CH_2O Triethylamine is 0.25 x CH_2O			Based on ratio of pollutant to formaldehyde emissions
13	Testing from sister facility and existing Line 1 (Fort Smith)		2.00 lbs VOC/hr 0.011 lbs CH_2O/hr 1.00 lbs Methanol/hr			Factor of 2 applied to sister facility stack test results
			Acrylic Acid is 1.20 x CH_2O Ammonia is 1.20 x CH_2O Styrene is 0.25 x CH_2O Triethylamine is 0.25 x CH_2O			Based on ratio of pollutant to formaldehyde emissions
14	Testing from sister facility and existing Line 1 (Fort Smith)		24.11 lbs PM/PM_{10}/hr 1.90 lbs VOC/hr 0.35 lbs CH_2O/hr 0.91 lbs Methanol/hr	Dust collector	99%	Factor of 2 applied to sister facility stack test results
			Acrylic Acid is 1.20 x CH_2O Ammonia is 1.20 x CH_2O Styrene is 0.25 x CH_2O Triethylamine is 0.25 x CH_2O			Based on ratio of pollutant to formaldehyde emissions
15	AP-42 Section 1.4 (7/98)		Various: AP-42 Sec. 1.4 for Criteria and HAP			NAT GAS combustion Max Heat Input 5.10 MMBtu/hr; 8760 hrs; Heating Value 1,026 Btu/scf
16	AP-42 Section 3.3 (10/96)		Various: AP-42 Sec. 3.3 for Criteria and HAP			NAT GAS combustion

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					Max Heat Input 233 hp; 500 hrs; Diesel Heating Value 138,000 Btu/gal; 6,000 gal/yr
21A 21B 21C 25	Vendor Specifications	$PM/PM_{10}/PM_{2.5}$: 0.02 gr/CF	Baghouse and Bin Vent Filter	99.9%	
22	VOC Content	Varies			
23	AP-42 Section 1.4 (7/98)	Various: AP-42 Sec. 1.4 for Criteria and HAP			NAT GAS combustion Max Heat Input 49.13 MMBtu/hr; 8760 hrs; Heating Value 1,026 Btu/scf
24	VOC Content	5% by weight			

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	Formaldehyde	Method 316, 318 or 320	Once every 5 years	§63.2993(e)
11	Formaldehyde	Method 316, 318 or 320	Once every 5 years	§63.2993(e)
11, 14	PM/PM_{10} VOC Acrylic Acid Formaldehyde Methanol Ammonia	Various	Initial	Verify permitted emission rates
12,13	VOC Acrylic Acid Formaldehyde Methanol	Various	Initial	Verify permitted emission rates

SN	Pollutants	Test Method	Test Interval	Justification
	Ammonia			
11, 12, 13, 14	VOC Acrylic Acid Formaldehyde	Various	Once every 5 years	Verify permitted emission rates

17. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
01	Temperature of Oxidizer	Continuous recorder	15-min 3 hour	No
11	Temperature of Oxidizer	Continuous recorder	15-min 3 hour	No

18. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility (Line 1 only)	Fiberglass mat finished product	55,100 tpy	Monthly	Y
Facility (12 Month Transition Period)	Fiberglass mat finished product	55,100 tpy	Monthly	Y
Facility (Line 2 only)	Fiberglass mat finished product	133,000 tpy	Monthly	Y
21A, 21B, 21C	Pressure Drop	3 inch H_2O min 4 inch H_2O max	Daily	N
24	Mass of materials applied	<5% VOC	Monthly	N
25	Pressure Drop	2 inch H_2O min 5 inch H_20 max	Daily	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01	20%	Regulation 19, §19.503	Daily Observation

SN	Opacity	Justification for limit	Compliance Mechanism
03, 04	5%	Regulation 18, §18.501	Weekly Observation
11	20%	Regulation 19, §19.503	Daily Observation
12	5%	Regulation 18, §18.501	Weekly Observation
14	5%	Regulation 18, §18.501	Weekly Observation
15	20%	Regulation 19, §19.503	Weekly Observation
16	20%	Regulation 19, §19.503	Annual Observation
21A, 21B, 21C	5%	Rule 19.503	Weekly Observation
25	5%	Rule 19.503	Weekly Observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Thickener Tank, T-12	A-3			0.0356				
WWTP Reactors 1-4, T-16, T-17, T-18, T-19	A-3			0.0692				
WWTP Solids Holding Tank, T-20	A-3			0.0203				
WWTP Filtrate Tank, T-22	A-3			0.0173				
WWTP Coagulant Tank, T-23	A-3			0.0061				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
WWTP Flocculant, T-24	A-3			0.0064				
Coating Mix Tank, T-25	A-3			0.0300				
Coating Storage Tank, T-26	A-3			0.0595				
Coating Storage Tank, T-27	A-3			0.0595				
Coating Working Tank, T-28	A-3			0.0158				
4 Binder A/B Tanks, T-01, T-02, T-03, T-04	A-13			0.243				
Dispersant Tank, T-05	A-13			0.0065				
Biocide Tank, T-06	A-13			0.0155				
5 Toner Tanks, T-07, T-08, T-09, T-10, T-11	A-13			0.0360				
Thickener Tank, T-12	A-13			0.0356				
Antifoam Tank, T-13	A-13			0.0123				
WWTP Tank, T-14	A-13			0.0985				
WWTP Equalizer Tank, T-15	A-13			0.1244				
WWTP Reactors 1-4, T-16, T-17, T-18, T-19	A-13			0.0692				
WWTP Solids Holding Tank, T-20	A-13			0.0203				
WWTP Pre-treatment Tank, T-21	A-13			0.0643				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
WWTP Filtrate Tank, T-22	A-13			0.0173				
WWTP Coagulant Tank, T-23	A-13			0.0061				
WWTP Flocculant Tank, T-24	A-13			0.0064				
Coating Mix Tank, T-25	A-13			0.0300				
Coating Storage Tank, T-26	A-13			0.0595				
Coating Storage Tank, T-27	A-13			0.0595				
Coating Working Tank, T-28	A-13			0.0158				
Comfort Heaters	B-2							
Water Heaters (non-process)	B-73							
Laboratory Equipment	B-34							
Diesel Tank (55 gal) (mower & tractor fuel)	B-14							
Biocide Storage Tote (400 gal)(vented indoors)	B-21							
Ferric Chloride Storage Tank	B-21							
Lime Silo W4	Vented Indoors							
Lime Slurry Mix Tank W5	B-21							
Polymer Storage Tank W17	B-21							

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0747-AOP-R6

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Owens Corning Non-Woven Technology, LLC
Permit #: 0747-AOP-R7
AFIN: 66-00294

$/ton factor	27.27	Annual Chargeable Emissions (tpy)	355.14
Permit Type	Modification	Permit Fee $	1278.963

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	46.9
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		43.9	57.7	13.8		
PM_{10}		43.9	57.7	13.8	13.8	57.7
$PM_{2.5}$		39.6	53.4	13.8		
SO_2		4.4	4.6	0.2	0.2	4.6
VOC		167.5	179.4	11.9	11.9	179.4
CO		219	236.7	17.7		
NO_X		60.9	81.9	21	21	81.9
Acrylic Acid	☐	31.1	31.1	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Formaldehyde	☐	29.35	29.37	0.02		
Methanol	☐	47.21	47.21	0		
Ammonia	☑	31.54	31.54	0	0	31.54
Total Other HAPs	☐	7.89	8.29	0.4		