STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0747-AOP-R5 AFIN: 66-00294

1. PERMITTING AUTHORITY:

Arkansas Department 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:

Jeremy Antipolo

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 |
|---|---|---|
| 5/14/2019 | Title V Renewal | SN-08 Trim Drop-Out Box classified as A-13 insignificant activity; several pollutant emission factors raised as a result of stack tests |

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 mat primarily for use in the roofing products industry. With this Title V Renewal, the facility requested to increase several pollutant emission rates as indicated by recent testing as well as classifying Trim Drop-Out Box

(SN-08) emissions as an A-13 insignificant source based on the particulate size and dampness of trimmings. In addition, state-only testing for sources SN-03, SN-04, SN-05 and SN-07 were requested to be discontinued as previous testing provides sufficient evidence of conservative emission estimates for those sources. As a result, a facility wide throughput of finished fiberglass mats was requested to be added as a compliance mechanism. Permitted emission increases associated with this renewal are 4.7 tpy $PM/PM_{10}$, 13.14 tpy Acrylic Acid, 6.57 Formaldehyde, 10.95 tpy Methanol, and 3.49 tpy Total Other HAPs.

7. COMPLIANCE STATUS:

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

This facility was inspected on March 11, 2019 and was found to be in compliance.

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/A
- *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 | Formaldehyde | 40 CFR Part 63, Subpart HHHH |

10. 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 Regulation 18 requirement.)

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

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. 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 ADEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

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 |

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:_____

| Pollutant | Threshold value | Modeled Concentration (ppb) | Pass? |
|---|---|---|---|
| $H_2S$ | 20 parts per million (5-minute average*) | N/A | N/A |
| | 80 parts per billion (8-hour average) residential area | N/A | N/A |
| | 100 parts per billion (8-hour average) nonresidential area | N/A | N/A |

*To determine the 5-minute average use the following equation

$Cp = Cm\ (t_m/t_p)^{0.2}$ where

Cp = 5-minute average concentration
Cm = 1-hour average concentration
$t_m$ = 60 minutes
$t_p$ = 5 minutes

13. 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 |

14. 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) |

15. 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 |

16. 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 | Fiberglass mat finished product | 55,100 tpy | Monthly | N |

17. OPACITY:

| SN | Opacity | Justification for limit | Compliance Mechanism |
|---|---|---|---|
| 01 | 20% | Regulation 19, §19.503 | Daily Observation |
| 03, 04 | 5% | Regulation 18, §18.501 | Weekly Observation |

18. DELETED CONDITIONS:

| Former SC | Justification for removal |
|---|---|
| 36 - 39 | Mat Trimmings drop-box activities general trivial amounts of dust due to typical dampness and size of trimmings. Source was requested to be classified as A-13 insignificant activity. |

19. 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 |
| Storage Tank (B1-B6) | 13 | | | 0.002 | | | 0.002 | 0.002 |
| Small Cooling Tower | 13 | 2.0 | | | | | | |
| Wastewater Treatment Plant | 13 | | | 0.001 | | | 0.001 | 0.001 |
| Trim Drop-Out Box | 13 | 0.44 | | | | | | |
| 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 | | | | | | | |
| Empty Storage Tank B1 (910 gal) | N/A | | | | | | | |
| Empty Silo B7 | N/A | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ferric Chloride Storage Tank | B-21 | | | | | | | |
| Lime Silo W4 | Vented Indoors | | | | | | | |
| Lime Slurry Mix Tank W5 | B-21 | | | | | | | |
| Polymer Storage Tank W17 | B-21 | | | | | | | |
| Soda Ash Bin W18 | Vented Indoors | | | | | | | |

20. 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-R4 |

# APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

# Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Owens Corning Composite Materials, LLC
Permit Number: 074-AOP-R5
AFIN: 66-00294

| | | | |
|---|---|---|---|
| $/ton factor | 23.93 | Annual Chargeable Emissions (tpy) | 259.64 |
| Permit Type | Modification | Permit Fee $ | 1000 |

| | |
|---|---|
| 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) | 4.7 |
| 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 | | 39.2 | 43.9 | 4.7 | | |
| $PM_{10}$ | | 39.2 | 43.9 | 4.7 | 4.7 | 43.9 |
| $PM_{2.5}$ | | 0 | 0 | 0 | | |
| $SO_2$ | | 4.4 | 4.4 | 0 | 0 | 4.4 |
| VOC | | 136 | 136 | 0 | 0 | 136 |
| CO | | 219 | 219 | 0 | | |
| $NO_X$ | | 43.8 | 43.8 | 0 | 0 | 43.8 |
| Acrylic Acid | ☐ | 17.96 | 31.1 | 13.14 | | |

| Pollutant (tpy) | Check if Chargeable Emission | Old Permit | New Permit | Change in Emissions | Permit Fee Chargeable Emissions | Annual Chargeable Emissions |
|---|---|---|---|---|---|---|
| Formaldehyde | ☐ | 22.78 | 29.35 | 6.57 | | |
| Methanol | ☐ | 28.91 | 39.86 | 10.95 | | |
| Styrene | ☐ | 2.2 | 0 | -2.2 | | |
| Triethylamine | ☐ | 2.2 | 0 | -2.2 | | |
| Ammonia | ☑ | 31.54 | 31.54 | 0 | 0 | 31.54 |
| Total Other HAPs | ☐ | 0 | 7.89 | 7.89 | | |