STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1028-AR-2 AFIN: 15-00089

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Bitec Inc.
#2 Industrial Park
Morrilton, Arkansas 72110

3. PERMIT WRITER:

Jeremy Antipolo

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Asphalt Shingle and Coating Materials Manufacturing
NAICS Code: 324122

5. ALL SUBMITTALS:

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
8/24/2016	Deminimis	Two (2) news asphalt tanks (SN-07 and SN-08), each with a natural gas-fired burner (SN-09 and SN-10); Addition of a pre-impregnator to the production line (SN-01E)
9/21/2016	Modification	Addition of an existing Granule Storage Building (SN-11)

6. REVIEWER'S NOTES:

BITEC, Inc. (BITEC) currently manufactures bituminous waterproofing membranes for use in residential and commercial roofing, waterproofing and subterranean waterproofing applications in Morrilton, Conway County, Arkansas. Minor Source Permit No. 1028-AR-1, which was issued in June 14, 1996, was revised to the current permit format and incorporated

the following modifications as proposed in a de minimis modification application dated August 24, 2016:

- Installation of two (2) asphalt holding tanks (SN-07 and SN-08) equipped with natural gas-fired burners (SN-09 and SN-10) for temperature control;
- Installation of a pre-impregnator to the Production Line (SN-01E);
- Adding the existing Granule Storage Building (SN-11) to the list of permitted sources;
- Installation of a 500 gallon diesel storage tank (Insignificant Activities Group A, No. 3);
- Removal of the SBS Handling Area and its associated baghouse (SN-01C);
- Removal of the Backup Steam Boiler (SN-02B);
- Renaming "SN-02A" to "SN-02";
- Updating Production Line (SN-01) emission calculations with current information; and
- Incorporation of applicable requirements under 40 CFR Part 63, Subpart AAAAAAA, the National Emission Standards for hazardous Air Pollutants Area Source Standards for Asphalt Processing and Asphalt Roofing Manufacturing.

Modifications of this permit action result in emission rate increases of the 0.1 tpy SO_2, 3.2 tpy VOC, 0.9 tpy CO, 0.02 tpy H_2S and 0.20 tpy Total HAPs. Corresponding emission rate decreases associated with the modifications are 15.3 tpy PM/PM_{10} and 1.7 tpy NO_x.

7. COMPLIANCE STATUS:

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

In August 2016, it was discovered during the preparation of an application to modify their current permit (1028-AR-1 modified June 14, 1996) that BITEC is subject to NESHAP Subpart AAAAAAA. According to the subpart, BITEC must demonstrate initial compliance within 180 calendar days after December 2, 2010.

As Arkansas Department of Environmental Quality (ADEQ) is not delegated to enforce Subpart AAAAAAA, BITEC contacted USEPA Region 6 for guidance in reporting noncompliance and steps necessary to comply with the regulation. BITEC has decided to take advantage of USEPA's Audit Policy.

On September 19, 2016, BITEC has submitted a stack test protocol, a Site-Specific Test Plan, a Site-Specific Monitoring Plan and a Site-Specific Performance Evaluation Test Plan. Additionally, the stack test to determine initial compliance was conducted on October 7-10, 2016 and submitted the stack test report to ADEQ on November 8, 2016.

8. PSD APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? 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, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
01(01A, 01B, 01C, 01D), 06, 07, 08, 11	PM and Opacity	NSPS UU
SN-01D Impregnator & Mixing vessels in SN-01	PAH or PM (BITEC chose PM)	NESHAP AAAAAAA

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

Based on Department procedures for review of non-criteria pollutants, emissions of all non-criteria pollutants other than H_2S are below thresholds of concern.

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 N
If exempt, explain:_____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H_2S	20 parts per million (5-minute average*)	4.98 E-4 ppm 0.303 µg/m^3 (1-hr)	Y
	80 parts per billion (8-hour average) residential area	0.102 ppb 0.143 µg/m^3 (8-hr)	Y
	100 parts per billion (8-hour average) nonresidential area	0.102 ppb 0.143 µg/m^3 (8-hr)	Y

*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

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01A, 01B, 01D & 01E	CO, VOC, Formaldehyde, carbonyl sulfide - Trumbore, David, et. Al. (2005) research PM/PM_{10} – NESHAP Subpart AAAAAAA	CO: 0.060 lb/ton asphalt PM/PM_{10}: 0.06 lb/ton asphalt VOC: 0.29 lb/ton asphalt Formaldehyde: 0.0091 lb/ton asphalt Carbonyl sulfide: 0.0081 lb/ton asphalt	Protherm Monsanto "ES" mist eliminator (fiber bed filter)	99%	01C was removed in R2; 01A, 01B, 01D & 01E are all controlled with listed mist eliminator
02, 03, 04 and 05	AP-42 Section 1.4 (7/93)	PM/PM_{10}: 4.5 lb/MMscf natural gas VOC: 5.8 lb/MMscf natural gas CO: 21 lb/MMscf natural gas NO_x: 100 lb/MMscf natural gas SO_2: 0.6 lb/MMscf natural gas	None		Taken from application submitted January 15, 1996
06	Testing	PM/PM_{10}: 0.01 gr/scf	None		Taken from application submitted January 15, 1996
07 & 08	TANKS 4.0.9d with Trumbore, David (1999) research	PM/PM_{10}: 22% of HC fumes VOC: 78% of HC fumes CO: 500 ppm of HC fumes H_2S: 500 ppm of HC fumes	None		

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
09 & 10	AP-42 1.4 Natural Gas Combustion Tables 1.4-1 and 1.4-2	PM/PM_{10}: 7.6 lb/MMscf natural gas VOC: 5.5 lb/MMscf natural gas CO: 84 lb/MMscf natural gas NO_x: 100 lb/MMscf natural gas SO_2: 0.6 lb/MMscf natural gas	None		
11	FIRE Database, Bulk Loading Operations	PM/PM_{10}: 0.02 lb/ton of product	None		

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 (Fiber Bed Filter Mist Eliminator)	PM	Method 5A	Once (conducted October 7-10, 2016; submitted to USEPA Region 6 for approval)	Table 3 of 40 CFR 63 Subpart AAAAAAA

14. 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 (Fiber Bed Filter Mist Eliminator)	Inlet Gas Temperature of Fiber Bed Filter Mist Eliminator (FBFME)	CPMS – Temperature Gauge	Once every 15 minutes for a period of consecutive observations (Continuous)	N
01 (Fiber Bed Filter Mist Eliminator)	Pressure Drop across Device Main Filters of FBFME	CPMS – Pressure Gauge	Once every 15 minutes for a period of consecutive observations (Continuous)	N

15. 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	Rolls of 95 pound per roll modified bituminous waterproofing membrane	750,000 rolls per 12 month rolling average	Monthly	N
01A, 01B, 07 and 08	Opacity	0%	Annually	N
06 and 11	Opacity	1%	Annually	N
01, 02, 03 04, 05, 09 and 10	Opacity	20%	Annually	N
01 (Fiber Bed Filter Mist Eliminator)	Inlet Gas Temperature to control device	< 120 °F (3-hour average)	Record each operating parameter once every 15 minutes – Continuously & on-going	Yes -only for initial approval (Submitted for approval to USEPA Region 6)
01 (Fiber Bed Filter Mist Eliminator)	Pressure Drop across Control Device main Filters	8 - 20 inches H_2O (3-hour average)	Record each operating parameter once every 15 minutes – Continuously & on-going	Yes -only for initial approval (Submitted for approval to USEPA Region 6)
01 (Fiber Bed Filter Mist Eliminator)	IPT PM Emission Test Conducted October 7-10, 2016	0.06 lb/ton Limit Result 0.0035 lb/ton	Once unless modified – keep for life of unit	Yes -only for initial approval (Submitted for approval to USEPA Region 6)
01 (Fiber Bed Filter Mist Eliminator)	Original Spec/ Doc (info describing the op of control device (FBFME) & process parameters, which would indicate proper operation and maintenance of device	As specified in Manufacturing Specifications	On-going	No (Keep on-site for Life of unit)
Facility	Site-specific Monitoring Plan (SSMP)	(1.) Proper install & location of gauges; (2.) Performance and eq. specs for the probe,	On-going	Yes -only for initial approval (Submitted for approval to USEPA Region 6)

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		signal analyzer, data collection and reduction system; & (3.) Performance evaluation procedures and acceptance criteria.		

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01A, 01B, 07 and 08	0%	§60.472(c)	Annual ADEQ Inspection
06 and 11	1%	§60.472(d)	
01, 02, 03 04, 05, 09 and 10	20%	Reg.19.503 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	

17. DELETED CONDITIONS:

Former SC	Justification for removal
06	Original two tanks physically cannot be used simultaneously. Of two new tanks, one is piped for continuous flow, the second is additional storage not piped to flow to process.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Diesel Storage Tank	A-3			< 0.1				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1028-AR-1

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: BITEC, Inc.
Permit Number: 1028-AR-2
AFIN: 15-00089

			Old Permit	New Permit
$/ton factor	23.93	Permit Predominant Air Contaminant	17.5	4.5
Minimum Fee $	400	Net Predominant Air Contaminant Increase	-13	
Minimum Initial Fee $	500			
		Permit Fee $	400	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	4.5	No Annual Fee

Pollutant (tpy)	Old Permit	New Permit	Change
PM	17.5	2.2	-15.3
PM_{10}	17.5	2.2	-15.3
$PM_{2.5}$	0	0	0
SO_2	0.5	0.6	0.1
VOC	0.7	3.9	3.2
CO	1.5	2.4	0.9
NO_X	6.2	4.5	-1.7
Total HAP	0	0.2	0.2
Hydrogen Sulfide	0	0.02	0.02