STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1145-AR-11 AFIN: 60-00049

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

CT GS Building Products, Inc.
2701 East Roosevelt Road
Little Rock, Arkansas 72206

3. PERMIT WRITER:

Christopher Riley

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
10/30/2017	Modification	N/A

6. REVIEWER'S NOTES:

GS Roofing Products Company (GS Roofing), currently owned by CertainTeed Corporation, operates an asphalt roofing manufacturing facility in Little Rock, Arkansas (Pulaski County). GS Roofing requested a de minimis change to Permit No. 1145-AR-10 to:

- Adding requirements from NESHAP AAAAAAA (7A) to affected sources SN-102, 103, 131, and 132.

There are no permitted emissions changes for this revision.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.
The most recent inspection letter (dated August 11, 2016) revealed no violations, however the facility has self-reported that they have been subject to NESHAP AAAAAAA (7A), but the conditions were not in the permit until this revision.

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)
Asphalt Storage Tanks (SN-120, SN-144, SN-145, SN-206, SN207 & SN-917), Mineral Handling & Storage Equipment (SN-148, SN-149, SN-151, SN-152, SN-153, SN-154, SN-165, SN-166, & SN-167), Pre-coaters & Coaters (SN-102, SN-103, SN-131, & SN-132)	PM/PM_{10}	40 CFR Part 60 (NSPS) Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture
SN-102, 103, 131, and 132	PAH/PM	40 CFR 63 (NESHAP) Subpart AAAAAAA (7A) – National Emission Standards For Hazardous Air Pollutants For Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

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:

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLV) that pass the PAER or PAIL. Therefore, modeling of specific non-criteria pollutants was not performed.

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?
Formaldehyde	0.37	0.0407	1.75	No
Carbonyl Sulfide[1]	24.57	2.703	0.94	Yes
Glycol Ethers[2]	95	10.45	0.5	Yes
Polycyclic Organic Matter (POM)[3]	0.2	0.022	0.02	Yes
Toluene	188	20.68	0.31	Yes
Ammonia	17.4	1.92	0.4	Yes

1. The TLV for Carbonyl Sulfide was not reported in the ACGIH. Based on H_2S.
2. The TLV for Glycol Sulfide was not reported in the ACGIH. Used EPA website info.
3. The TLV for POM is based on the TLV for Phenanthrene.

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?
Formaldehyde*	15	10.68	Yes

* Modeling results from Permit #1145-AR-7

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/N
If exempt, explain:_____

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

*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 (lbs/ton.)		Control Equipment	Control Equipment Efficiency	Comments
102,103,104, 105	Asphalt Roofing	VOC CO	0.359 0.0754			(Emission factor are based on

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Control Equipment	Control Equipment Efficiency	Comments
	Manufacturer=s Association (ARMA)	Formaldehyde Carbonyl Sulfide	0.00915 0.00808			pound of pollutant per ton of asphalt processed)*
102,103,131, 132	NSPS Subpart UU	PM	0.08 lb/ton of roll roofing produced			
104	AP-42 §13.2.4	PM	0.00032			Aggregate Handling & Storage
105,137	ARMA	PM	0.85			*
113,114,116, 116,117,118,120,131,133, 134,135,136, 137,144,145, 156,159,164, 205, 207	VOC emission factor based on stack test data	VOC	0.17			VOC emission factor based on July 2007 stack test data as measured by EPA Test Method 25A
132	stack test data	VOC	0.13			July 2007 stack test data
113,116,117, 118,120,131, 133,134,135, 136,137,144, 156,159,207	ARMA	CO	0.0754			*
113,164,205	ARMA	CO	0.0202			*
114,145	ARMA	CO	0.019			*
113	ARMA	Formaldehyde Carbonyl Sulfide	0.0252 0.0046			*
114,115	ARMA	Formaldehyde Carbonyl Sulfide	0.00397 0.00025			*
116,117,118,120,144,156, 159,206,207	ARMA	Formaldehyde Carbonyl Sulfide	0.00568 0.0049			*
164, 205	ARMA	Formaldehyde Carbonyl	0.0252 0.0046			*

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)			Control Equipment	Control Equipment Efficiency	Comments
		Sulfide					
131 thru 137	ARMA	Formaldehyde Carbonyl Sulfide	0.00915 0.00808				*
113		PM	----				Emissions from 113 are routed to SN-903 (Baghouse)
114,145,205	ARMA	PM	0.5000				
116,117,118, 120,144,159, 206,207	ARMA	PM	0.105				
164	ARMA	PM	----				Emissions from 164 are routed to SN-912 (Baghouse)
133,134,135,136	ARMA	PM	0.00032				Surfacing PM/PM10 -All PM/PM10 is composed of organic compounds. Therefore, the total VOC emissions are the sum of THC (as carbon) and the emitted PM/PM10.
129,183,122, 115,119,121, 143,158,157, 160,139,180	AP-42 §1.4(NG) and AP-42 1.5(Propane)		MMBtu/h				These Sources may use propane as a backup fuel
		CO NOx PM/PM10 SO2 VOC	<u>NG</u> 0.0824 0.098 0.0075 0.0006 0.0054	<u>Propane</u> 0.0210 0.155 0.0044 0.0166 0.0055			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Control Equipment	Control Equipment Efficiency	Comments
SN-183	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion	CO NOx PM/PM10 SO2 VOC	See AP-42 (above row)			Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1
SN-106, SN-140, SN-178	Mass Balance				Paint, part washer usage. Max VOC content lb/gal.	
131,132,102, 103	ARMA	PM/PM10 THC(as C) CO Toluene Formaldehyde Carbon Sulfide Phenol	0.850 0.359 7.54E-02 6.18E-03 9.15E-03 8.08E-03 2.52E-04 (lb/ton Asphalt)			Emission for SN 131 & 132 are routed to SN-907; Emission from SN-102 routed to SN-912 and emission from SN-103 routed to SN-902
SN-175	Tank Program		-			
SN-902	ARMA	PM/PM10	NSPS Subpart UU			Must meet NSPS UU PM limit 0.08 lb/ton
SN-903	Publication from EPA's Clean Air Technology Center (CATC)	$PM/PM_{10,}$ also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)			Baghouse exit flow rate: 5400 cubic feet per minute (cfm). (Vents SN-109,110,111,112, and 113)
SN-904		PM/PM_{10}	0.02 gr/ft3			Baghouse exit flow rate: 1000 cfm

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Control Equipment	Control Equipment Efficiency	Comments
SN-905	CATC	PM/PM_{10}	0.02 gr/ft3			Baghouse exit flow rate: 900 cfm
SN-906	CATC	$PM/PM_{10,}$ also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)			Baghouse exit flow rate: 12,800 cfm. Vents SN-125, 127, 128.
SN-907	NSPS Subpart UU	PM/PM_{10}	0.02 (gr/ft3)			Must meet NSPS UU PM limit 0.08 lb/ton
SN-908	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 1000 cfm, passive.
SN-909	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 900 cfm, passive
SN-910	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 1800cfm
SN-911	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 1000 cfm
SN-912	CATC	$PM/PM_{10,}$ also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)			Baghouse exit flow rate: 4500 cfm. Vents SN-164

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lbs/ton.)		Control Equipment	Control Equipment Efficiency	Comments
SN-913	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 1050 cfm.
SN-914	CATC	PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 3,000 cfm
SN-915	CATC	$PM/PM_{10,}$ also captures VOC: the Emission rate is the sum of grain loading PM contribution plus 10% any THC	0.02 (gr/ft3)			Baghouse exit flow rate: 433 cfm passive. Must meet NSPS UU PM limit 0.08 lb/ton
SN-916		PM/PM_{10}	0.02 (gr/ft3)			Baghouse exit flow rate: 1500 cfm
SN-182	Mass Balance					
SN-183	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion		See AP-42			Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1
SN-918	stack test data ARMA – pound of pollutant per ton of asphalt processed	VOC	0.17			Emissions from SN-917 are routed to SN-918
		PM/PM_{10}	0.105	Ceco Filter	90%	
		CO	0.0754			
		Formaldehyde	0.00568			
		Carbonyl Sulfide	0.0049			
		POM	0.0000986			

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
SN-131 and SN-132 (Outlet of SN-907)	PM/PM_{10}	5A, 22, 9	per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits.
SN-145 (Outlet of SN-907)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-120 (Outlet of SN-902)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-148 (Outlet of SN-908)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-149 (Outlet of SN-909)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-151, SN-152, and SN-153 (Outlet of SN-	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted

SN	Pollutants	Test Method	Test Interval	Justification
910)				emission limits. Please see Specific Condition 26 for details.
SN-154 (Outlet of SN-911)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-165, SN-166, SN-167 (Outlet of SN-913)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.
SN-102 and SN-103 (Outlet of SN-915 and 902)	PM/PM_{10}	5A, 22, 9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits.
SN-917 (Outlet of SN-918)	PM/PM_{10}	9	Testing per 40 CFR §60.8	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 26 for details.

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)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
907, 902, and 915	Inlet temperature reading	Thermocouple	Continuously	N
902 and 915	Pressure Drop Across Unit	Pressure Gauge	Weekly	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)
Plantwide	Asphalt usage	96,850 tpy	Monthly	N
Plantwide	Roofing Material Production	205,000 tpy	Monthly	N
Plantwide	VOC emissions	95.5 ton	Monthly	N
182	Coating VOC and ammonia limits	0.5 lb/gallon	Monthly	N
178	Part Washer Solvent VOC limit	8.0 lb/gallon	Monthly	N
106 and 140	HAPs usage	5.0 tons	Monthly	N
	VOC limit	See Specific Condition # 5		
106 and 140	Paint	2 lb/gallon	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
SN-122	20	19.503	Testing per 40 CFR §60.8
104, 105, 106, 118, 126, 133, 134, 135, 136, 137, 140, 146, 147, 150, 156, 159, 178, 179, 182, 183, 903, 904, 905, 906,	5	18.501	Testing per 40 CFR §60.8

SN	Opacity	Justification for limit	Compliance Mechanism
and 912.			
SN-902 when SN-103 is operating.	20	19.503	Testing per 40 CFR §60.8
SN-902 when SN-103 is not operating and SN-120 is operating	0	60.472(c)	Testing per 40 CFR §60.8
SN-915 when SN-102, 207, and 206 are operating.	20	19.503	Testing per 40 CFR §60.8
SN-915 when 102 is not operating, and 207, 206 are operating.	0	60.472(c)	Testing per 40 CFR §60.8
SN-907 when SN-131 and SN-132 are operating.	20	60.472(a)(2)	Testing per 40 CFR §60.8
SN-907 when SN-131 and SN-132 are not operating and SN-145 is operating.	0	60.472(c)	Testing per 40 CFR §60.8
SN-144	0	40 CFR Part 60.472(c)	Testing per 40 CFR §60.8
SN-908, 909, 910, 911,913, and 916.	1	40 CFR Part 60.472(d)	Testing per 40 CFR §60.8
SN-918	0	40 CFR Part 60.472(c)	Testing per 40 CFR §60.8

17. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Roofing Line Shrink	A-13							

Wrap								
Coating Asphalt Heater, 3.5 MM Btu/hr	A-1							
Roofing Line SBS Modified Asphalt Storage Tank Heater, 0.8 MM Btu/hr	A-1							
Roofing Line SBS Storage Tank and Heater, 2.5 MM Btu/hr	A-1							
Modified Line Backing Film Applicator	A-13							
Modified Line Sheet Edge Flame Shrinking, 0.03 MM Btu/hr	A-1							
Modified Line Shrink Wrap	A-13							
Modified Line Pre-Coater Storage	A-1							

Tank Heater, 0.8 MM Btu/hr								
Modified Line APP Polymer Storage Tank	A-3							
Modified Line SBS Flux Storage Tank Electric Heater	A-13							
Modified Line Hot Oil Heater, 6.0 MM Btu/hr	A-1							
Modified Line APP Flux Storage Tank Heater, 0.8 MM Btu/hr	A-1							
Modified Line Tectifier Resin Storage Tank	B-21							
1,500 gallon Diesel Tank	A-3							
Kerosene Storage Tank	A-3							

Modified Line Sheet Splicing, 0.06 MM Btu/hr	A-1							

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1145-AR-10

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: CT GS Building Products

Permit Number: 1145-AR-11

AFIN: 60-00049

			Old Permit	New Permit
$/ton factor	23.93	Permit Predominant Air Contaminant	95.5	95.8
Minimum Fee $	400	Net Predominant Air Contaminant Increase	0.3	
Minimum Initial Fee $	500			
		Permit Fee $	400	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	95.8	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	85.7	85.2	-0.5
PM_{10}	85.7	85.2	-0.5
$PM_{2.5}$	0	0	0
SO_2	1.3	1.3	0
VOC	95.5	95.8	0.3
CO	27	27	0
NO_X	11.4	11.4	0
Ammonia	1.4	1.4	0
Formaldehyde	3.48	3.53	0.05
Carbonyl Sulfide	1.84	1.84	0
POM	0.02	0.02	0
HAPs	3	3	0
Toluene	0.56	0.55	-0.01
Fluorine	0.01	0	-0.01