

STATEMENT OF BASIS

for the issuance of Draft Air Permit #:1145-AR-7

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

GS Roofing Products Company, Incorporated
2701 E. Roosevelt Road
Little Rock, AR 72206

3. PERMIT WRITER: Parviz Mokhtari

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Oil and Gas Field Machinery
NAICS Code: 333132

5. SUBMITTALS: 8/21/2007

6. REVIEWERS 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 modification to allow for the following change:

- Authorize Roofing Line to manufacture roofing materials using modified asphalt,
- Replacement of roofing line coater (SN-103) with a new coater,
- Install a new compound mixing system consisting of five asphalt mixers (SN-205) and two hold tanks (SN-206 and SN-207),
- Install a new filler bin with baghouse (SN-916) on the modified Roofing Line,
- Remove Roofing Line Ink Jet Applicator (SN-107) and Modified Line Ink jet Applicator (SN-130),
- Allow a facilitywide modified asphalt usage rate to 96,850 tons per year and facilitywide total for roofing material production of 205,000 tons per year, and
- To use different industry data and facility stack test data for VOC emissions estimation.
- Remove SN-177 (Soap Mix Tank) and SN-181 (Soap Mix Tank) from the Insignificant Activities List.
- Remove ethylene limits from the permit.

- Revise the minimum pressure drop for the Roofing Line #1 Ceco Filter (SN-902) and Roofing Line #2 Ceco Filter (SN-915) from 3.0 in.w.c. to 0.5 in.w.c. in Specific Condition #17.

The permitted emission will increase due to these modifications are: 11.7 tons per year (tpy) PM/PM10, 12.2 tpy CO, 2.11 tpy Formaldehyde, 1.14 tpy Carbonyl Sulfide, 0.16 tpy Toluene, and 0.01 tpy Fluorine.

The plant contains two separate lines a Roofing Line that produces traditional smooth-surfaced roll roofing products and a Modified Line which utilizes modified asphalt and can also produce mineral-surfaced roll roofing products.

7. COMPLIANCE STATUS:

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

There are currently no enforcement issues or actions against the facility at this time.

8. APPLICABLE REGULATIONS:

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, and etcetera)?	N
Has this facility undergone PSD review in the past?	N
Is this facility categorized as a major source for PSD?	N
.100 tpy and on the list of 28 (100 tpy)?	N
.250 tpy all other	N

PSD Netting

Was netting performed to avoid PSD review in this permit? N

Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u>]
Asphalt Storage Tanks (SN-120, SN-144, SN-145, SN-206, & SN207), Mineral Handling & Storage Equipment (SN-148, SN-149, SN-151, SN-152, SN-153,	PM/PM ₁₀	40 CFR Part 60 (NSPS) Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u>]
SN-154, SN-165, SN-166, & SN-167), Pre-coaters & Coaters (SN-102, SN-103, SN-131, & SN-132)example: SN-02		

9. EMISSION CHANGES:

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit [Previous Permit #1145-AR-6]	Air Permit [Permit #1145-AR-7]	Change
PM10	73.0	84.7	+11.7
PM	73.0	84.7	+11.7
SO2	1.8	1.3	-0.5
VOC	95.5	95.5	0
CO	14.8	27.0	+12.2
NOX	11.4	11.4	0
Ammonia	1.40	1.40	0
Formaldehyde	1.37	3.48	+2.11
Carbonyl Sulfide	0.70	1.84	+1.14
Polycyclic Organic Matter	0.07	0.01	-0.06
HAPs*	5.00	3.00	-2.0
Toluene	0.40	0.25	-0.15
Fluorine	0	0.01	+0.01

* Include emissions of 2-methyl naphthalene, phenanthrene, and acenaphthalene.

** HAPs emission limits used at SN-106 and SN-140 only.

10. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

For the Criteria pollutants under 100 tpy, modeling is no necessary.

Other Modeling

Odor

Odor modeling for sources emitting styrene. N/A

H₂S Modeling: N/A

11. 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 TLVs) 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 deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), 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	1.5	No
Carbonyl Sulfide ¹	---	---	0.89	N/A
Glycol Ethers ¹	---	---	0.5	N/A
lycyclic Organic Matter (POM) ²	0.2	0.022	0.07	No
Toluene	188	20.68	0.31	Yes

Pollutant	TLV (mg/m ³)	PAER (lb/hr)= 0.11*TLV	Proposed lb/hr	Pass?
Fluorene	1.55	0.17	0.01	Yes
Ammonia	17.4	1.92	0.4	Yes
1. The TLV for Carbonyl Sulfide and Glycol Sulfide was not reported in the ACGIH. 2. 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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Formaldehyde	15*	10.68	Yes

* Surrogate screening value adopted by ADEQ (see Steve Patrick Memo dated October 19, 1998).

12. CALCULATIONS:

SN	Pollutant	Emission Factor and units (lbs/ton)	Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Eff iciency	Comments (Emission factor controlled/ uncontrolled, etc)
102,103, 104, 105	VOC CO Formaldehyde Carbonyl Sulfide	0.359 0.0754 0.00915 0.00808	Asphalt Roofing Manufacturer's Association (ARMA)	---	(Emission factor are based on pound of pollutant per ton of asphalt processed)*
102, 103, 131, 132	PM	0.08 lb/ton of roll roofing produced	NSPS Subpart UU	---	
104	PM	0.00032	AP-42 §13.2.4	---	Aggregate Handling & Storage

SN	Pollutant	Emission Factor and units (lbs/ton)	Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
105, 137	PM	0.85	ARMA	---	*
113, 114, 116, 116, 117, 118, 120, 131, 133, 134, 135, 136, 137, 142, 144, 145, 156, 159, 164, 205, 207	VOC	0.17	VOC emission factor based on stack test data	---	VOC emission factor based on July 2007 stack test data as measured by EPA Test Method 25A
132	VOC	0.13	stack test data	---	July 2007 stack test data
113, 116, 117, 118, 120, 131, 133, 134, 135, 136, 137, 142, 144, 156, 159, 207	CO	0.0754	ARMA	---	*
113, 164, 205	CO	0.0202	ARMA	---	*
114, 145	CO	0.019	ARMA	---	*
113	Formaldehyde Carbonyl Sulfide	0.0252 0.0046	ARMA	---	*
114, 115	Formaldehyde Carbonyl Sulfide	0.00397 0.00025	ARMA	---	*
116, 117, 118, 120, 142, 144, 156, 159, 206, 207	Formaldehyde Carbonyl Sulfide	0.00568 0.0049	ARMA	---	*
164, 205	Formaldehyde Carbonyl Sulfide	0.0252 0.0046	ARMA	---	*
131 thru 137	Formaldehyde Carbonyl Sulfide	0.00915 0.00808	ARMA	---	*

SN	Pollutant	Emission Factor and units (lbs/ton)		Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
113	PM	----			---	Emissions from 113 are routed to SN-903 (Baghouse)
114, 145, 205	PM	0.5000		ARMA	---	
116, 117, 118, 120, 142, 144, 159, 206, 207	PM	0.105		ARMA	---	
164	PM	----		ARMA	---	Emissions from 164 are routed to SN-912 (Baghouse)
133, 134, 135, 136	PM	0.00032		ARMA		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	CO NOx PM/PM10 SO2 VOC	<u>NG</u> 0.0824 0.098 0.0075 0.0006 0.0054 MMBtu/h	<u>Propane</u> 0.0210 0.155 0.0044 0.0166 0.0055 MMBtu/h	AP-42 §1.4(NG) and AP-42 1.5(Propane)	---	These Sources May use propane as a backup fuel

SN	Pollutant	Emission Factor and units (lbs/ton)	Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-183	CO NO _x PM/PM ₁₀ SO ₂ VOC	See AP-42 (above row)	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion		Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1
SN-106, SN-140, and SN-178			Mass Balance		Paint, part washer usage. Max VOC content lb/gal.
131,132, 102, 103	PM/PM ₁₀ 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)	ARMA		Emission for SN 131 & 132 are routed to SN-902 Emission from SN-102 routed to SN-912 and emission from SN-103 routed to SN-902
SN-175		-	Tank Program		
SN-902	PM/PM ₁₀	NSPS Subpart UU	ARMA		Must meet NSPS UU PM limit 0.08 lb/ton
SN-903	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)	Publication from EPA's Clean Air Technology Center (CATC)		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-905	PM/PM ₁₀	0.02 gr/ft3	CATC		Baghouse exit flow rate: 900 cfm
SN-906	PM/PM ₁₀ , also captures VOC: the Emission rate	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 12,800 cfm. Vents SN-125, 127,

SN	Pollutant	Emission Factor and units (lbs/ton)	Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
	is the sum of grain loading PM contribution plus 10% any THC				128.
SN-907	PM/PM ₁₀	0.02 (gr/ft3)	NSPS Subpart UU		Must meet NSPS UU PM limit 0.08 lb/ton
SN-908	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 1000 cfm, passive.
SN-909	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 900 cfm, passive
SN-910	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 1800cfm
SN-911	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 1000 cfm
SN-912	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)	CATC		Baghouse exit flow rate: 4500 cfm. Vents SN-164
SN-913	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 1050 cfm.
SN-914	PM/PM ₁₀	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 433 cfm passive
SN-915	PM/PM ₁₀ , also captures VOC: the Emission rate is the sum of grain loading PM	0.02 (gr/ft3)	CATC		Baghouse exit flow rate: 433 cfm passive. Must meet NSPS UU PM limit 0.08 lb/ton

SN	Pollutant	Emission Factor and units (lbs/ton)	Emission Factor Source(AP-42, Testing, etc)	Control Equip. Type/Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
	contribution plus 10% any THC				
SN-916	PM/PM ₁₀	0.02 (gr/ft ³)			Baghouse exit flow rate: 1500 cfm
SN-182			Mass Balance		
SN-183		See AP-42	AP-42 Table 1.4-1 and 1.4-2 Natural gas combustion		Capacity = 3.7MMBtu/hr With 10% safety factor, 3.7 x 1.1 = 4.1

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Justification
SN-131 and SN-132 (Outlet of SN-907)	PM/PM ₁₀	5A, 22, 9	To demonstrate compliance with the permitted emission limits.
SN-145 (Outlet of SN-907)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-120 (Outlet of SN-902)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-148 (Outlet of SN-908)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-149 (Outlet of SN-909)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-151, SN-152, and SN-153 (Outlet	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see

SN(s)	Pollutant	Test Method	Justification
of SN-910)			Specific Condition 22 for details.
SN-154 (Outlet of SN-911)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-165, SN-166, SN-167 (Outlet of SN-913)	PM/PM ₁₀	9	To demonstrate compliance with the permitted emission limits. Please see Specific Condition 22 for details.
SN-102 and SN-103 (Outlet of SN-915 and 902)	PM/PM ₁₀	5A, 22, 9	To demonstrate compliance with the permitted emission limits.

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (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

*Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

**Indicates whether the parameter needs to be included in reports.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	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 VOC limit	5.0 tons See Specific Condition # 5	Monthly	N
106 and 140	Paint	2 lb/gallon	Monthly	N

*Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

**Indicates whether the item needs to be included in reports

16. OPACITY

SN	Limit (%)	Regulatory Citation
SN-122	20	19.503
104, 105, 106, 118, 126, 133, 134, 135, 136, 137, 140, 142, 146, 147, 150, 156, 159, 178, 179, 182, 183, 903, 904, 905, 906, and 912.	5	18.501
SN-902: When SN-103 is operating.	20	19.503
SN-902: When SN-103 is not operating and SN-120 is operating.	0	60.472(c)
SN-915:	20	19.503

SN	Limit (%)	Regulatory Citation
When SN-102, 207, and 206 are operating. SN-915: When 102 is not operating, and 207, 206 are operating.	0	60.472(c)
SN-907: When SN-131 and SN-132 are operating. SN-907: When SN-131 and SN-132 are not operating and SN-145 is operating.	20 0	60.472(a)(2) 60.472(c)
SN-144	0	40 CFR Part 60.472(c)
SN-908, 909, 910, 911,913, and 916.	1	40 CFR Part 60.472(d)

17. DELETED CONDITIONS:

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
	N/A

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

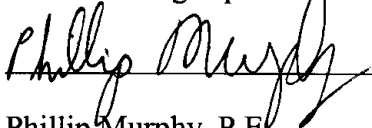
List all active permits voided/superseded/subsumed by issuance of this permit for this facility.

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19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:



Phillip Murphy, P.E.