

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1145-AR-3

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

GS Roofing Products Company, Inc.
2701 E. Roosevelt Road
Little Rock, Arkansas 72206

3. PERMIT WRITER:

Siew Low

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Rolled Asphalt Roofing
SIC Code: 2952

5. SUBMITTALS: September 20, 25, 26 2002 and October 4, 2002

6. REVIEWER'S NOTES:

GS Roofing (AFIN # 60-00049) at 2701 E. Roosevelt Road, Little Rock, Arkansas 72206, owns and operates an asphalt roofing manufacturing facility. This permitting action consolidates a de minimis and a modification. This permitting action includes installing two new compound mixers on the modified line, installing three dry chemical storage tanks and a baghouse, installing a pneumatic conveying system, installing a new ceco filter, installing a new roofing line hot filler system baghouse, modifying the modified line by installing a new coater, installing a new soap mix tank, installing a roofing line surfacing/granule reclaim system baghouse, installing a tackifier resin storage tank, installing five new surge hoppers, identifying all emission sources individually, renumbering all emission sources, updating emission factors, adding to the permit existing equipment for which emissions data did not exist previously, and revised asphalt usage limits.

7. COMPLIANCE STATUS:

The facility is in active CAO.

8. APPLICABLE REGULATIONS:

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a. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N) N

Has this facility underwent PSD review in the past (Y/N) No Permit # _____

Is this facility categorized as a major source for PSD? (Y/N) No

\$ 100 tpy and on the list of 28 (100 tpy)?(Y/N) _____

\$ 250 tpy all other (Y/N) _____

b. PSD Netting

Was netting performed to avoid PSD review in this permit? (Y/N) No

9. EMISSION CHANGES:

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

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1145-AR-2	Air Permit 1145-AR-3	Change
PM	15.7	69.7	54
PM₁₀	13.6	69.7	56.1
SO₂	0.2	1.1	0.9
VOC	14.8	98.9	84.1
CO	5.2	13.1	7.9
NO_x	6.2	9.5	3.3
Formaldehyde	0	1.08	1.08
Carbonyl Sulfide	0	0.70	0.70
Naphthalene	0	0.01	0.01
2-Methyl phenol	0	0.01	0.01

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1145-AR-2	Air Permit 1145-AR-3	Change
Phenol	0	0.01	0.01
Dibenzofuran	0	0.01	0.01
Di-n-butylphthalate	0	0.01	0.01
Polycyclic Organic Matter	0	0.02	0.02
Glycol Ethers	0	0.05	0.05
Toluene	0	0.33	0.33

10. MODELING:

Non-Criteria Pollutants

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges non-criteria pollutants (grouped by TLVs) which would pass the PAER .

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department 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	1.5	0.165	1.14	No
Carbonyl Sulfide	TLV Not Establish			
Naphthalene	52.4	5.764	0.02	Yes
2-Methyl phenol (o-	22.1	2.431	0.004	Yes

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Pollutant	TLV (mg/m³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
cresol)				
Phenol	19.2	2.112	0.02	Yes
Dibenzofuran	TLV Not Establish			
Di-n-butylphthalate	5	0.55	0.002	Yes
Polycyclic Organic Matter	0.2	0.022	0.06	No
Glycol Ethers	96.67	10.6	1.25	Yes
Toluene	188	20.68	0.3	Yes

2nd Tier Screening (PAIL)

ISCST3 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/m³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m³)	Pass?
Formaldehyde	15	13.54	Yes.
Polycyclic Organic Matter	2.0	1.7566	Yes

11. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-104, 105, 133, 134, 135, 136, 137	<p>AP-42 Section 13.2.4</p> <p>Asphalt Roofing Manufacturer's Association (ARMA)</p>	<p>0.00032 lb PM/PM₁₀ per ton of material</p> <p>0.85 lb PM/PM₁₀ per tons of coating asphalt</p> <p>4.23 lb PM/PM₁₀ per ton of saturant asphalt.</p>	-	-	<p>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.</p> <p>Saturant is only used on the Roofing Line and only included in the Roofing Lin Cooling Section.</p> <p>CO, VOC, and HAPs emissions are based on ARMA coater and saturator emission factors.</p>
SN-106	Mass Balance	-	-	-	Paint usage.
SN-107	Mass Balance	-	-	-	Ink usage.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-118, 144, 156, 159	ARMA	<p>0.105 lb PM/PM₁₀ per ton of material.</p> <p>0.243 lb VOC per ton of material.</p> <p>0.0704 lb CO per ton of material.</p>	-	-	<p>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.</p> <p>HAP emission factors are based on ARMA Storage Tank emission factors.</p>
SN-122	AP-42 Section 1.4 and 1.5	Look at AP-42	-	-	Emission rate calculations are based on propane.
SN-126, 146, 147, 150, 179	AP-42 Section 13.2.4	0.00032 lb PM/PM ₁₀ per ton of material	-	-	-
SN-129	AP-42 Section 1.4 and 1.5	Look at AP-42	-	-	Emission rate calculations are based on propane.
SN-130	Mass Balance	-	-	-	Ink usage.
SN-140	Mass Balance	-	-	-	Paint Usage.
SN-142	ARMA		-	-	

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SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-175	Tank Program	-	-	-	-
SN-178	Mass Balance	-	-	-	Parts Washers Solvents usage.
SN-901	NSPS Subpart UU	0.08 lb/ton	Ceco Filter	90%	-
SN-902	NSPS Subpart UU	0.08 lb/ton	HEAF	90%	-
SN-903	Publication from EPA's Clean Air Technology Center (CATC)	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 5400 cubic feet per minute (cfm).
SN-904	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 1000 cfm.
SN-905	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 900 cfm.
SN-906	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 12,800.
SN-907	NSPS Subpart UU	0.08 lb/ton	Monsanto Coalescing Filter	-	-
SN-908	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 900 cfm, passive.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
SN-909	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 900 cfm, passive.
SN-910	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 1800cfm.
SN-911	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 1000 cfm.
SN-912	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 4500 cfm.
SN-913	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 1050 cfm.
SN-914	CATC	0.02 gr/ft ³	Baghouse	-	Baghouse exit flow rate: 433 cfm, passive.

12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Justification
901, 902, and 907	PM/PM ₁₀	5A, 22	To demonstrate compliance with the permitted emission limits.

13. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be 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)**
901, 902, and 907	Inlet temperature reading	Thermocouple	Continuously	N

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

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

14. RECORD KEEPING REQUIREMENTS

The following are items that must be tracked and recorded.

SN	Recorded Item	Permitted Twelve Month Rolling Total	Frequency*	Report (Y/N)**
Plantwide	Asphalt	78,109 tons	Monthly	No
Plantwide	Saturant	4,919 tons	Monthly	No
Plantwide	Roofing Product Used in Modified Line Only	70,866 tons	Monthly	No

SN	Recorded Item	Permitted Twelve Month Rolling Total	Frequency *	Report (Y/N)**
106	VOC usage	0.3 tpy	Monthly	No
107	VOC usage	0.1 tpy	Monthly	No
130	VOC usage	0.1 tpy	Monthly	No
140	VOC usage	0.1 tpy	Monthly	No
178	VOC usage	1.4	Monthly	No

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

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

15. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
122, 129	20%	19.503	Monthly
104, 105, 106, 107, 118, 126, 130, 133, 134, 135, 136, 137, 140, 140, 142, 144, 146, 147, 150, 156, 159, 175, 178, 179, 903, 904, 905, 906, and 912.	5%	18.501	Monthly
901, 902, and 907.	5%	18.501	Monthly
144	0%	40 CFR Part 60.472(c)	Monthly
908, 909, 910, 911, and 913.	1%	40 CFR Part 60.472(d)	Monthly

16. DELETED CONDITIONS:

No Specific Conditions from the previous permit were deleted.

17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

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

Permit #
1145-AR-2

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Thomas Rheaume, P.E.