STATEMENT OF BASIS

For the issuance of Air Permit # 2248-A AFIN: 02-00317

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arez, LLC
141 Mac McGoogan Drive
Crossett, Arkansas 71635

3. PERMIT WRITER:

Travis Porter

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Gum and Wood Chemical Manufacturing
NAICS Code: 325191

5. SUBMITTALS:

12/16/2010, 1/13/2011, 1/25/2011, 1/26/2011, 1/27/2011, 2/1/2011

6. REVIEWER'S NOTES:

Arez, LLC, has submitted an application for a new permit for a gum and wood chemical manufacturing facility to be located at 141 Mac McGoogan Drive, Crossett. Total permitted emissions for this facility are: PM/PM_{10}, 18.9 tpy, SO_2 0.1 tpy, VOC, 26.1 tpy, CO, 4.6 tpy, NO_x, 5.5 tpy, and HAPs, 0.75 tpy. 40 CFR 60 Subpart Kb does not apply to the tanks due to low vapor pressure of the liquids. 40 CFR 63 Subpart VVVVVV does not apply due since the HAP used is not on the list of applicable HAPs in the subpart.

7. COMPLIANCE STATUS:

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

This is the initial permit for the facility.

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)
N/A		

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. 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.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}		150	24-Hour		
SO_2		80	Annual		
		1300	3-Hour		
		365	24-Hour		
CO		10,000	8-Hour		
		40,000	1-Hour		
NO_x		100	Annual		

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
Pb		0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)		

Non-Criteria Pollutants:

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?
Maleic Anhydride	0.401	0.044	0.17	N

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?
Maleic Anhydride	4.01	1.355	Y

Other Modeling: N/A

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/A
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 (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Permittee supplied data	0.149 lb/ ft^3 vapor □	Liquid seal	N/A	372M ft^3/yr volume 1.0 mmHg vapor pressure 0.149 lb/ ft^3 vapor □

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
02	Permittee supplied data	0.149 lb/ ft^3 vapor □	Triple liquid seal	90%	Emissions when reactor fills, discharges, and during heating & reaction time. 301M ft^3/yr fill volume 353 ft^3/yr reactor discharge volume 50 mm Hg vapor pressure 0.149 lb/ ft^3 vapor □ Heating/Reaction time— 43MM ft^3/yr water generated; 90% efficiency @30 mm Hg VOC load.
03	AP-42 Chapter 11.19.2	PM_{10}=0.0024 lb/ton PM=0.0054 lb/ton	Takes place inside building	80%	25MM lbs/yr Scraping takes place inside building
04	ADEQ accepted factor	0.01 grains/DSCF	Dust Collector	Not Provided	10M SCFM blower 8760 hrs/yr.
05	ADEQ accepted factor	0.01 grains/DSCF	Dust Collector	Not Provided	25M SCFM blower 8760 hrs/yr
06	Tanks 4.0	Working loss=3.27 lb VOC/yr Breathing loss=8.36 lb/yr	None	N/A	Ink Oil Tanks
07	AP-42 Tables 1.4-1 and 1.4-2	In lb/MMscf PM/PM_{10}=7.6 SO_x=0.6 VOC=5.5 CO=84 NO_x=100 In lb/MM Btu PM/PM_{10}=0.008 SO_x=0.001 VOC=0.006 CO=0.084 NO_x=0.100	None	N/A	12.5MM Btu/hr natural gas fired Hot/Cold Oil Heater

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
08	AP-42 Table 13.4-1	PM/PM_{10} =0.019 lb/Mgal	None	N/A	Water flow = 1000gpm

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
08	PM/PM_{10}	Conductivity	Weekly when SN-08 is operating	[Regulation No. 19 §19.705, §19.703, Regulation No. 18 §18.1004 §18.1003, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
08	PM/PM_{10}	Total Dissolved Solids on Cooling Tower Water	Every Six Months when SN-08 is operating	[Regulation No. 19 §19.705, §19.703, Regulation No. 18 §18.1004 §18.1003, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

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)
None				

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)
01-05	Product produced	25,000,000 pounds per rolling 12-month period.	Monthly	N
01-05	Maleic Anhydride Processed	600,000 kg per rolling 12-month period.	Monthly	N
06	Ink Oil processed	1,500,000 kg Ink Oil per rolling 12-month period	Monthly	No
08	Total Dissolved Solids (TDS)	12,000 parts/million (ppm)	Once every six months	N
08	Conductivity of cooling water	Value which correlates with 12,000 ppm TDS	Weekly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 04, 05, 06, 07	5%	[Regulation No. 18 §18.501 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Inspector Observation
08	20%	[Regulation No. 19 §19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]	Inspector Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal

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
None								

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
N/A

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 12-15-10

Facility Name: AREZ, LLC
Permit Number: 2248-A
AFIN: 02-00317

			Old Permit	New Permit
$/ton factor	22.07	Permit Predominant Air Contaminant	0	26.1
Minimum Fee $	400	Net Chargable Emission Increase	0	
Minimum Initial Fee $	500	Permit Modification Fee $	0	
		Initial Permit Fee $	576.027	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	26.1	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	0	18.9	18.9
PM_{10}	0	18.9	18.9
SO_2	0	0.1	0.1
VOC	0	26.1	26.1
CO	0	4.6	4.6
NO_X	0	5.5	5.5
HAPs	0	0.75	0.75