

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0378-AR-16 AFIN: 04-00111

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

TGRC The Gates Corporation
1801 North Lincoln
Siloam Springs, Arkansas 72761

3. PERMIT WRITER:

Adam McDaniel

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Rubber and Plastics Hoses and Belting Manufacturing
NAICS Code: 326220

5. SUBMITTALS:

5/5/2014

6. REVIEWER'S NOTES:

Gates Corporation of 1801 North Lincoln Street, Siloam Springs, Benton County, Arkansas owns and operates a rubber belt manufacturing facility. The facility submitted a modification application to update their permit to add some insignificant activities (milling, extruding, and calendaring), increase the HAP limit for the belt builder by 4.8 tpy, and add a 4.5 tpy acetone limit to belt building. The total annual permitted emission rate limit changes associated with this application includes: +1.41 tpy Single HAP, +4.81 Total HAPs, and +4.5 tpy acetone.

7. COMPLIANCE STATUS:

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

The facility was last inspected on April 30, 2014. Gas analysis by the facility revealed that they have been underreporting toluene usage and emissions. Specifically, the toluene being used as a component of the belt builder cement was not being reported in their total toluene calculation. As a result they have exceeded the toluene permit limit of 3.7 tpy at SN-08 and 3.82 tpy total for over 1 year. Gates personnel have met with ADEQ Air Division engineering and enforcement staff regarding this discrepancy.

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, or*

- *CO₂e potential to emit ≥ 100,000 tpy and ≥100 tpy/≥250tpy of combined GHGs?*

9. **GHG STATUS:**

Indicate one:

- Facility is classified as a major source for GHG and the permit includes this designation
- Facility does not have the physical potential to be a major GHG source
- Facility has restrictions on GHG or throughput rates that limit facility to a minor GHG source. Describe these restrictions: _____

10. **SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:**

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
15	N/A	NSPS 40 CFR Part 60 Subpart Dc
16, 17	HAPs	NESHAP 40 CFR Part 63 Subpart ZZZZ

SN-01, SN-02, and SN-15 are not subject to NESHAP 40 CFR Part 63 Subpart JJJJJ because they meet the definition of gas-fired boilers due to Specific Conditions #6 and #17.

11. **EMISSION CHANGES AND FEE CALCULATION:**

See emission change and fee calculation spreadsheet in Appendix A.

12. **NAAQS EVALUATIONS AND NON-CRITERIA POLLUTANTS:**

a) **NAAQS:**

Pursuant to Act 1302 of the Regular Session of the 89th General Assembly of the State of Arkansas, no dispersion modeling was performed by ADEQ because it was not voluntarily proposed and agreed to by the facility. No other information was submitted by the applicant. Criteria pollutants were not evaluated for impacts on the NAAQS.

b) **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/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

The PAER table was not updated in permit modification #0378-AR-16 because there were no hourly HAP emission changes.

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acetophenone	49.14	5.406	12.301	N
Acrolein	0.23	0.025	0.068	N
Aniline	7.62	0.838	0.13	Y

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Benzene	1.60	0.176	0.32	N
1,3-Butadiene	4.42	0.487	0.36	Y
Carbon Disulfide	3.11	0.34	28.38	N
Cumene	245.79	27.04	0.239	Y
DEHP (Bis(2-ethylhexyl) phthalate)	5.00	0.55	0.57	N
Isooctane (2,2,4-Trimethylpentane)	1400.27	154.03	0.12	Y
Methylene Chloride (dichloromethane)	173.68	19.11	0.84	Y
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	81.93	9.01	1.05	Y
Hexane	176.24	19.39	0.91	Y
Phenol	19.25	2.12	0.132	Y
Propylene oxide	1.42	0.16	0.872	N
Styrene	85.20	9.37	0.0289	Y
Tetrachloroethylene	169.53	18.65	1.4587	Y
Toluene	188.40	20.73	7.7806693	Y
2-Chloro-1,3-Butadiene (chloroprene)	36.21	3.98	0.832	Y
Nickel	1.50	0.17	0.0934281	Y
m-Xylene + p-Xylene	434.19	47.76	1.0929	Y
Cadmium Compounds	0.002	2.2E-4	0.0015495	N
Lead	0.05	6.03E-3	0.0162	N
Carbonyl Sulfide	12.28	1.35	3.3229	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.

The PAIL table was not updated in permit modification #0378-AR-16 because there were no hourly HAP emission changes.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Acetophenone	491.4	81.67	Yes
Acrolein	2.3	0.41	Yes
Benzene	16.0	1.86	Yes
DEHP (Bis(2-ethylhexyl) phthalate)	50.0	3.36	Yes
Carbon Disulfide*	175	169.10	Yes

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Propylene Oxide	14.2	4.77	Yes
Cadmium Compounds	0.02	0.0105	Yes
Lead	0.5	0.149	Yes
Carbonyl Sulfide	122.8	18.13	Yes

*The PAIL for Carbon Disulfide is based on an $\frac{1}{4}$ th of the RFC Value (which is $700 \mu\text{g}/\text{m}^3$). $\frac{1}{4}$ th of the RFC = $175 \mu\text{g}/\text{m}^3$. The Pail in this instance is compared to the annual concentration – which is equal to $169.10 \mu\text{g}/\text{m}^3$.

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01, 02	AP-42 1.4 (Natural Gas) HAPs Calculated in Application	NO _x = 100 lb/MMscf CO= 84 lb/MMscf PM10= 7.6 lb/MMscf SO ₂ = 0.6 lb/MMscf VOC= 5.5 lb/MMscf	None	NA	40.8 MMBtu/hr
01, 02	AP-42 1.3 (#2 Fuel Oil) HAPs Calculated in Application	NO _x = 20 lb/kgal CO= 5 lb/kgal PM/PM ₁₀ = 3.3 lb/kgal SO ₂ = 71 lb/kgal VOC= 0.252 lb/kgal	None	NA	40.8 MMBtu/hr
08	Material balance	-	-	-	-
09	AP-42 Table 4.12-9 HAPs Calculated in Application`	Listed in excel spreadsheet on EPA website. Worst Case factors were used.	None	NA	
10	AP-42 Table 4.12-10	VOC – 2.94E-03 HAPS – Listed in excel spreadsheet on EPA website.	None	NA	Units are lbs/lb rubber processed
11	AP-42 Table 4.12-12	EF's listed in excel spreadsheet on EPA website.	Cyclones + ESP	99%	
15	AP-42 1.4 (Natural Gas) HAPs Calculated in Application	NO _x = 100 lb/MMscf CO= 84 lb/MMscf PM10= 7.6 lb/MMscf SO ₂ = 0.6 lb/MMscf VOC= 5.5 lb/MMscf	None		29.2 MMBtu/hr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
16	AP-42 3.2-3 HAPs Calculated in Application	PM ₁₀ = 1.94E-2 lb/MMbtu SO ₂ = 5.88E-4 lb/MMbtu VOC= 0.36 lb/MMbtu CO= 3.51 lb/MMbtu NO _x = 100 lb/MMbtu	None		112 bhp 4S-RB SI Emergency Generator (Installed 2002)
17	AP-42 3.3-1 3.3-2 HAPs Calculated in Application	PM ₁₀ = 2.2E-3 lb/hp-hr SO ₂ = 2.05E-3 lb/hp-hr VOC= 2.514E-3 lb/hp-hr CO= 6.68E-3 lb/hp-hr NO _x = 0.031 lb/hp-hr	None		185 bhp CI Emergency Fire Pump Diesel Engine (Installed 1978)

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

15. 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				

16. 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, 02	Fuel Oil Usage	869,760 gallons per 12 months	Monthly	N
01, 02	Fuel Oil Sulfur Content	0.5 % sulfur	Each Shipment	N
08	VOC Usage	24 tpy	Monthly	N
08	Toluene Usage	8.5 tpy	Monthly	N
09	Rubber Processed	29,000 lb/hr	Monthly	N
11	Rubber Processed	30,000 lb/hr	Monthly	N
Facility	Rubber Throughput	10,000,000 lb/yr	Monthly	N

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 15 (Natural Gas)	5%	§18.501	Fuel used
01, 02 (#2 Fuel Oil)	20%	§19.503	Inspector Observation
11	10%	§18.501	Inspector Observation
16, 17	20%	§19.503	Inspector Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
	None

19. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Oil Demister	A-5			<0.1				
Grinding Wheel Cleaning	A-13			<0.1				
Cooling Towers	A-13			<0.1				
Misc. Solvent Usage (Mobile Printers)	A-13			4.5			Acetone= 4.5	
Dust Collectors Venting Indoors	A-13	<0.01						
Milling, Extruding, and Calendering	A-13			<0.1				
TOTAL	A-13	<0.01		<4.6			Acetone= 4.5	

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0378-AR-15

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Permit #: 0378-AR-16

AFIN: 04-00111

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Fee Calculation for Minor Source

Revised 08-26-13

Facility Name: TGRC The Gates
 Corporation
 Permit Number: 0378-AR-16
 AFIN: 04-00111

			Old Permit	New Permit
\$/ton factor	23.42	Permit Predominant Air Contaminant	58.2	58.2
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	0	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	<u>400</u>	
		Annual Chargeable Emissions (tpy)	<u>58.2</u>	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	9.3	9.3	0
PM ₁₀	9.3	9.3	0
SO ₂	31.5	31.5	0
VOC	41.5	41.5	0
CO	43.3	43.3	0
NO _x	58.2	58.2	0
Single HAP	7.205	8.62	1.415
Total HAPs	16.548027	21.36	4.811973
Acetone	0	4.5	4.5