STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0921-AOP-R6 AFIN: 16-00181

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Quebecor World - Jonesboro Division
4708 Krueger Drive
Jonesboro, Arkansas 72401

3. PERMIT WRITER:

Ann Sudmeyer

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Periodical Publishers
NAICS Code: 51112

5. SUBMITTALS:

3/2/2009

6. REVIEWER'S NOTES:

Quebecor World – Jonesboro Division (AFIN: 16-00181) located at 4708 Krueger Drive, Jonesboro, AR 72401 operates a heatset, web offset lithographic printing facility. This permitting action is necessary to:

1. Permit up to six stitchers and/or perfect binders (adhesive bindery usage, SN-21) with up to six inkjet printers (SN-20) in the auxiliary building;
2. Increase the vinyl acetate content of the adhesive used at SN-19 and SN-21 from 0.05% to 0.5%;
3. Reduce the makeup solvent usage limit from 50,000 lb/yr to 30,800 lb/yr for the inkjet printers at SN-11;
4. Increase the adhesive usage (SN-19 and SN-21) from 4,020 lb/yr to 8,059.2 lb/yr; and

5. Permit the adhesive bindery operations (SN-19 and SN-21) to use non-VOC, non-HAP, and non-air contaminant containing adhesives without counting toward the adhesive usage limit.

The total permitted annual emission rate limit changes associated with this modification include: -0.09 tpy methanol and 0.02 tpy vinyl acetate.

Permanent Note: SN-20 and SN-21 were added as new sources in 0921-AOP-R6. Thus, future HAP increases at these sources will need to be evaluated against MACT 112(g).

7. COMPLIANCE STATUS:

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

There are currently no enforcement actions against this 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 not PSD? N/A

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 for SO_2, CO, and NO_X since they are permitted below 100 tpy and VOC is permitted below 500 tpy.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}	0.8	50	Annual	0.5	1%
		150	24-Hour	4.7	3.2%

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?
Glycol Ether	96.66	10.63	9.92	Y
Methanol	262.08	28.82	17.45	Y
Naphthalene	52.42	5.76	4.48	Y
Vinyl Acetate	35.21	3.87	0.03	Y
Xylene	434.19	47.76	3.40	Y

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?
N/A			

Other Modeling: N/A

Odor: N/A

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ($\mu g/m^3$)	Pass?
Styrene	1361 $\mu g/m^3$	N/A	N/A

H_2S Modeling: N/A

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*)	N/A	N/A
	80 parts per billion (8-hour average) residential area	N/A	N/A
	100 parts per billion (8-hour average) nonresidential area	N/A	N/A

*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
02, 03, 04, 05, 08, 10, 13, 15, 16, 17	Material Balance	**Ink:** 45% VOC **Blanket Wash:** 100% VOC 5% glycol ethers 5.3% xylene **Fountain Soln Conc:** 22.5% VOC 15% glycol ethers	Afterburner	97%	Point source emissions from the presses are controlled by the afterburners. Assumptions are 80% of the ink, 40% of the automatic blanket wash, and 70% of the fountain solution are captured (point source emissions). The ink not captured (20%) stays in the web. 50% of the manual blanket wash stays in the rag (not emitted). All other usage is emitted as a non-point source. Annual emissions based on 10,500,000 lb/hr ink; 160,000 lb/yr automatic blanket wash; 282,000 lb/yr manual blanket wash; and 480,000 lb/yr fountain solution.
07, 09, 18	Material Balance	Actual Usages	Afterburner	97%	All captured VOC and HAP from the presses undergoes 97% destruction.
07, 09, 18, and press dryers	AP-42 Natural Gas Combustion	PM_{10} – 7.6 SO_2 – 0.6 VOC – 5.5 CO – 84.0 NO_X – 100.0	---	---	Emission factors are in units of $lb/MMft^3$

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
11	Material Balance	**Ink:** 83% VOC 83% methanol **Wash:** 100% VOC 100% methanol **Makeup Solvent:** 100% VOC 100% methanol	N/A	N/A	Annual emissions based on 7,400 lb/yr ink; 7,400 lb/yr wash; and 30,800 lb/yr makeup solvent.
12	Material Balance	**Solvent:** 100% VOC 90% naphthalene **Adhesive:** 1.1% VOC 0.5% vinyl acetate	N/A	N/A	Annual emissions based on 43,600 lb/yr solvent and 4,000 lb/yr adhesive.
19 and 21	Material Balance	**Adhesive:** 1.1% VOC 0.5% vinyl acetate	N/A	N/A	Annual emissions based on 8,059.2 lb/yr adhesive.
20	Material Balance	**Ink:** 83% VOC 83% methanol **Wash:** 100% VOC 100% methanol **Makeup Solvent:** 100% VOC 100% methanol	N/A	N/A	Annual emissions based on 3,200 lb/yr ink; 3,200 lb/yr wash; and 13,200 lb/yr makeup solvent.

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
07, 09, and 18	VOC	25A	5 years	Necessary to prove the continued effectiveness of the control device.

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)
07, 09, and 18	Afterburner Operating Temperature	Continuous Monitor	Continuous	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)
02, 03, 04, 05, 08, 10, 13, 15, 16, 17	Ink, blanket wash, and fountain solution usages	**Ink:** 10,500,000 lb/yr **Automatic Blanket Wash:** 160,000 lb/yr **Manual Blanket Wash:** 282,000 lb/yr **Fountain Solution:** 480,000 lb/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
02, 03, 04, 05, 08, 10, 13, 15, 16, 17	MSDS with VOC content of ink, blanket wash, and fountain solution	**Ink:** 45% VOC **Blanket Wash:** 100% VOC **Fountain Soln Conc:** 22.5% VOC	As Needed	N
02, 03, 04, 05, 08, 10, 13, 15, 16, 17	MSDS with HAP content of blanket wash and fountain solution	**Blanket Wash:** 5% glycol ethers 5.3% xylene **Fountain Soln Conc:** 15% glycol ethers	As Needed	N
07, 09, 18	Afterburner temperature	Minimum of 1300°F	Continuous	Y
07, 09, 18	Log of presses and afterburners operating and capacities	Press capacity shall not be greater than afterburner capacity	As Needed	N
11	Ink, wash, and makeup solvent usages	**Ink:** 7,400 lb/yr **Wash:** 7,400 lb/yr **Makeup Solvent:** 30,800 lb/yr	Monthly	Y
11 and 20	MSDS of VOC content of ink, wash, and makeup solvent	**Ink:** 83% VOC **Wash:** 100% VOC **Makeup Solvent:** 100% VOC	As Needed	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
11 and 20	MSDS of HAP content of ink, wash, and makeup solvent	**Ink:** 83% methanol **Wash:** 100% methanol **Makeup Solvent:** 100% methanol	As Needed	N
12	Solvent and adhesive usage	**Solvent:** 43,600 lb/yr **Adhesive:** 4,000 lb/yr	Monthly	Y
12	MSDS of VOC content of solvent and adhesive	**Solvent:** 100% VOC **Adhesive:** 1.1% VOC	As Needed	N
12	MSDS of HAP content of solvent and adhesive	**Solvent:** 90% naphthalene **Adhesive:** 0.5% vinyl acetate	As Needed	N
19 and 21	Adhesive usage (combined)	**Adhesive:** 8,059.2 lb/yr	Monthly	Y
19 and 21	MSDS of VOC content of adhesive	**Adhesive:** 1.1% VOC	As Needed	N
19 and 21	MSDS of HAP content of adhesive	**Adhesive:** 0.5% vinyl acetate	As Needed	N
19 and 21	MSDS for adhesives not counted toward usage restriction	**Adhesive:** 0% VOC 0% HAP 0% air contaminant	As Needed	N
20	Ink, wash, and makeup solvent usages	**Ink:** 3,200 lb/yr **Wash:** 3,200 lb/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		Makeup Solvent: 13,200 lb/yr		

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
07, 09, 18	5%	Department Guidance	Natural gas fuel

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
One 2,585 gallon Naphthalene Storage Tank	A-3			0.00163			0.00163	0.00163
Seven Cooling Towers	A-13	3.48						

19. VOIDED, SUPERCEDED, OR SUBSUMED PERMITS:

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

Permit #
0921-AOP-R5

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Karen Cerney, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Quebecor World - Jonesboro Division
Permit #: 0921-AOP-R6
AFIN: 16-00181

$/ton factor	22.07	Annual Chargeable Emissions (tpy)	294.9
Permit Type	Minor Mod	Permit Fee $	500

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	0
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	☑	3.2	3.2	0	0	3.2
PM_{10}	☐	3.2	3.2	0		
SO_2	☑	0.3	0.3	0	0	0.3
VOC	☑	249.6	249.6	0	0	249.6
CO	☐	35.1	35.1	0		
NO_X	☑	41.8	41.8	0	0	41.8
Glycol Ethers*	☐	17.54	17.54	0		
Methanol*	☐	31.8	31.71	-0.09		
Naphthalene*	☐	19.62	19.62	0		
Vinyl Acetate*	☐	0.02	0.04	0.02		
Xylene*	☐	6.35	6.35	0		