

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE DIVISION Large Coating, Printing and Chemical Operations Team APPLICATION PROCESSING AND CALCULATIONS	PAGE	1 of 7
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	PROCESSED BY	SMP
	REVIEWED BY	
	DATE	06/27/08

**PERMIT TO CONSTRUCT EVALUATION
(LITHOGRAPHIC PRINTING PRESS)**

Applicant's Name	ADVANCE PAPER BOX CO.
Company I.D.	47084
Mailing Address	6100 S. GRAMERCY PL., LOS ANGELES, CA 90047
Equipment Address	6100 S. GRAMERCY PL., LOS ANGELES, CA 90047

EQUIPMENT DESCRIPTION

APPLICATION NO. 483358 (Replacement of P/N F37733, A/N 339966)

LITHOGRAPHIC PRINTING SYSTEM CONSISTING OF:

- 1) PRINTING PRESS, MITSUBISHI, MODEL # D3000LX-8, 23' – 0" W. X 71' – 8" L. X 10' – 6" H., EIGHT COLOR, AQUEOUS COATER, 40-INCH WIDE SHEET FED.
- 2) OVEN, AIR MOTION SYSTEMS, INFRA-RED, WITH NINE LAMPS, 36 KW TOTAL, AN AIR CIRCULATION FAN AND AN EXHAUST BLOWER.
- 3) HOT AIR MODULES, TWENTY-SIX LAMPS, 36.4 KW TOTAL.
- 4) UV CURING, AIR MOTION SYSTEMS, WITH EIGHT 16 KW LAMPS AND AN. EXHAUST BLOWER.

HISTORY

Advance Paper Box Co. (APB) submitted the above permit application to install a new sheet-fed, IR/UV dry, lithographic printing press, which will replace one currently permitted (application no.339966) sheet-fed, IR dry, lithographic printing press.

This facility has three active permits from the District to operate three lithographic presses under I.D. # 47084. The permit conditions for the press to be replaced (P/O F37733) allows VOC emissions of 900 pounds per month, with a facility VOC emission cap of 76 pounds per day. The applicant did not request any increases in the equipment or facility VOC emission caps for this new press. The company proposes to use Rules 1130 and 1171 compliant inks, fountain solutions, and clean-up solvents on this press.

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The district database did not show any notices of violation issued against this facility. Also, there were no records of any complaints for visible emissions or odor nuisance in the district database for the last two years. The facility is located within an industrial area. It is not located within 1000 feet from any school and there will not be any facility emission increases under this replacement project, hence, this application will not require public notification per Rule 212.

Advance Paper Box Co. is a Title V facility. A Title V renewal permit was issued to this facility in August 2006. The proposed permit revision is considered a “minor permit revision” to the Title V permit, as described in Regulation XXX evaluation. This is the first revision since the renewal.

PROCESS DESCRIPTION

Advance Paper Box is a large sized paper box manufacturer where lithographic offset printing is performed on the boxes. The printed surface is clear coated on the printing line. Mostly aqueous coating is used, but the new press is also capable of UV clearcoat. The linseed oil based printing inks will be cured in the IR curing oven. Lithographic inks with 0.84 lbs/gal (maximum) VOC content will be used on this press. The fountain solution, as mixed, has a VOC content of 0.05 pounds per gallon. The clean-up material will have 0.8 lbs/gal material VOC content. Copies of the MSDSs for inks and solvents are in the file. They comply with Rules 1130 and 1171 requirements.

OPERATING HOURS

Average: 24 hr/day, 7 day/week, 52 weeks/year
Maximum: 24 hr/day, 7 day/week, 52 weeks/year

EMISSION CALCULATIONS

Emissions from this facility are mostly VOCs. The VOC emission sources are primarily organic solvents contained in inks, fountain solution and washes (washes of blanket, roller). For lithographic inks only 5% of the solvent contained in the ink is emitted in the IR drying oven. The fountain solution has 3 oz. of Printers Service 2451 fountain solution concentrate in one gallon of water.

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Lithographic Press - A/N 483358									
359689, 359690	<u>maximum</u>	<u>normal</u>					<u>ink/varnish</u>	<u>fountain</u>	<u>wash</u>
<u>hr/dy</u>	24	24			<u>Emission factor</u>		5%	100%	100%
<u>dy/wk</u>	7	7							
<u>wk/yr</u>	52	52			<u>Control efficiency</u>		0%		
	<u>VOC</u>	<u>ave</u>	<u>max</u>		<u>ave VOC</u>	<u>max VOC</u>			
	(lb/gal)	(gal/dy)	(gal/dy)		(lb/dy)	(lb/dy)			
<u>Inks</u>	0.84	15	40		0.63	1.68			
<u>Aq. Coating</u>	0.1	15	60		1.50	6.00			
<u>UV 1150</u>	0.1	15	38.4		1.50	3.84			
<u>UV 5115</u>	0.1	1	3.6		0.01	0.36			
	0	0	0		0.00	0.00			
	0	0	0		0.00	0.00			
<u>2451 conc.</u>	2.21	5	8.75		11.05	19.34			
	0	0	0		0.00	0.00			
<u>water</u>	0	32	130		0.00	0.00			
<u>blanket wash</u>	0.8	5	10		4.00	8.00			
	0	0	0		0.00	0.00			
	0	0	0		0.00	0.00			
	0	0	0		0.00	0.00			
	0	0	0		0.00	0.00			
		<u>max</u>	<u>max</u>	<u>30-day</u>		<u>AEIS--->>></u>	<u>ave</u>	<u>ave</u>	
		(lb/hr)	(lb/dy)	(lb/dy)			(lb/hr)	(lb/yr)	
<u>ROG (R1)</u>		1.63	39.22	NA			0.78	NA	
<u>ROG (R2)</u>		1.63	39.22	39.22			0.78	6801.34	

RULE 1401 EMISSIONS

Compounds	Content	Max. Gallons	No. of Days	Lbs/year	Tons/year	Lbs/hr =A X
	(lbs/hr)	used/day	In a year	A X B X C	D / 2000	B / 24
	A	B	Possible max.	D	E	
Toluene in UV 1150	1.39	40	365	20294	10.15	2.32
Formaldehyde in UV 5115	0.1	3.6	365	134	0.067	0.015
EGBE in F.S. Conc.	1.84	8.75	365	5876.5	2.94	0.67
Ethylene Glycol in F.S. Conc.	0.92	8.75	365	2938.3	1.47	0.34
Ammonia in Aq. coating	0.17	60	365	3723	1.86	0.43

The MICR, HIA and HIC calculations (see attached spread sheets) indicates less than 1 in a million cancer risk and HIA/HIC less than 1. Thus, this equipment will comply with the Rule 1401 requirements.

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RULES/REGULATIONS EVALUATION

▣ **RULE 212, PUBLIC NOTIFICATION**

√ **SECTION 212(c)(1):**

This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school. This source is not located within 1,000 feet from the outer boundary of a school. Therefore, public notice will not be required by this section.

√ **SECTION 212(c)(2):**

This section requires a public notice for all new or modified facilities which have on-site emission increases exceeding any of the daily maximums as specified in subdivision (g). As shown in the following table, there are no emission increases since the facility VOC cap will remain the same. Therefore, this application will not be subject to this section.

LB/DAY	CO	NOX	PM ₁₀	ROG	Lead	SOX
MAX. LIMIT	220	40	30	30	3	60
INCREASES	0	0	0	0	0	0

√ **SECTION 212(c)(3):**

Please, see Rule 1401 evaluation section. MICR is less than one in a million and HIA/HIC less than one. Therefore, this application will not be subject to this section.

√ **SECTION 212(g):**

This section requires a public notice for all new or modified sources which have on-site emission increases exceeding any of the daily maximums as specified in this subdivision. This press will be limited to 900 lb/month VOC as an equipment limit. As shown in the following table, there are no emission increases above the daily maximum limits specified by Rule 212(g). Therefore, this application will not be subject to this section.

LB/DAY	CO	NOX	PM ₁₀	ROG	SOX	Pb
MAX. LIMIT	220	40	30	30	0	3
INCREASES	0	0	0	30	0	0

▣ **RULES 401 & 402, VISIBLE EMISSIONS & NUISANCE**

AQMD database has no records of any visible emissions or nuisance complaints against this company. Compliance is expected.

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▣ **RULE 1130, GRAPHIC ARTS**

▼ **SECTION (C)(1), VOC CONTENT OF INKS**

This paragraph limits the maximum VOC content of printing inks, coatings, and adhesives at 300 g/l less water and exempt compounds. The applicant will comply with these requirements by using inks and coatings with the following VOC content less water and exempt compounds.

Materials Used	Rule VOC Limit (gram/liter)	VOC as applied (gram/liter)	Compliance
Kohl & Madden SF Ultrasoy Inks	300	100	Yes
Aqueous Coating	300	12	Yes
UV Coating (UVC-1150)	300	12	Yes
UV Coating (UVC-5115)	300	12	Yes

▣

RULE 1130, GRAPHIC ARTS

▼ **SECTION (C)(2), VOC CONTENT OF FOUNTAIN SOLUTION**

This paragraph limits the maximum VOC content of fountain solutions at 100 g/l or 0.83 lbs/gal with chilled fountain. The applicant will comply with these requirements by using fountain solution with the following VOC content. The press has a chilled fountain.

Materials Mixed	Volume	VOC Content (lb/gal)	VOC Content Lbs	VOC (lb/gal)	Rule VOC Limit (lb/gal)	Compliance
Printer's Service FS Conc	3 oz.	2.21	0.052			
Water	128 oz.	0.00	0.00			
Total	131 oz.		0.052	0.05	0.67	Yes

▣ **RULE 1171, SOLVENT CLEANING OPERATIONS**

According to MSDS provided by the applicant, clean-up material will comply with the Rule requirements.

Material Used	Rule VOC Limit (gm/liter)	VOC as Applied (gm/liter)	Compliance
Alpha 8 Blanket Wash	100	96	Yes

REGULATION XIII

▣

RULE 1303(a), BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

(a) VOC EMISSIONS

The use of Rule 1130 compliant inks and coatings and UV inks and coatings, fountain solution with less than 8% VOC by volume, and blanket/roller wash less than 100 g/l VOC will satisfy BACT requirements.

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The following table for fountain solution shows <8% VOC content. The company requested a permit condition limiting VOC content to 0.3 lb/gal for fountain solution which is less than 8% by volume. Thus, equipment is expected to comply with the BACT requirements.

Materials Mixed	Volume	VOC Content (lb/gal)	VOC Content Lbs	VOC Density Lb/gal	VOC Volume gal	VOC Volume Percentage
Printer's Service FS Conc	3 oz.	2.21	0.052	8.7	0.006	
Water	128 oz	0.00	0.00	0	0	
Total	131 oz.		0.052		0.006	0.6

▣ **RULE 1303(b)(1), MODELING**

No detailed modeling analysis is required for VOC emissions only.

▣ **RULE 1303 (b)(2), EMISSION OFFSETS**

Emission offsets are not required for this project since no net emission increases for criteria pollutants from this facility under this project. This equipment will be operated under the same facility cap of 76 lbs/day. Also, this is a functionally identical replacement without any VOC emission increases.

▣ **RULE 1401, NEW SOURCE REVIEW OF CARCINOGENIC AIR CONTAMINANTS**

This equipment is replacing a functionally identical permitted unit with no increase in maximum rating, however there are some additional toxics in the proposed materials. The MICR cancer risk is <1 in a million and HIA/HIC is less than 1 (see attached calculation spreadsheets).

REGULATION XXX

This facility is not in the RECLAIM program. The proposed project is considered as a “minor permit revision” to the Title V permit for this facility.

Rule 3000(b)(12)(vi) defines a “minor permit revision” as any Title V permit revision that does not result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed project is not expected to result in an increase in emissions of a pollutant subject to Regulation XIII – New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a “minor permit revision” pursuant to Rule 3000(b)(12)(A)(vi). This proposed project is the 1st permit revision to the renewed Title V permit issued to this facility on August 13, 2006. The following table summarizes the permit revisions since the Title V renewal permit:

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Revision	HAP	VOC	NO _x	PM ₁₀	SO _x	CO
1 st Permit Revision. Permit to Construct a new press (A/N 483358) to replace press under A/N 339966.	0	0	0	0	0	0
Cumulative Total	0	0	0	0	0	0
Maximum Daily	30	30	40	30	60	220

CONCLUSIONS/RECOMMENDATIONS

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “minor permit revision”, it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility.