DRAFT

EVALUATION REPORT
Fong Brothers Printing Inc.
Plant Number 3734
Application Number 21739

BACKGROUND

Fong Brothers Printing Inc. (Fong) is applying for an Authority to Construct and/or Permit to Operate the following source:

S-38 Heatset Lithographic Printing Press: Mitsubishi 3000LX-6-C-DIS; equipped with automatic blanket wash with solvent capture and recycle.

The equipment is used to provide commercial printing service to their customers.

EMISSION CALCULATIONS

Basis:

- Per the District's Regulation 8-20-605, a 20% retention factor, which equals to an 80% release factor, is used for determining emissions from heatset inks used at lithographic printing presses.
- For coatings, clean up solvents, and fountain solutions, 100% of the Volatile Organic Compound (VOC) content is assumed to be evaporated into the atmosphere.
- The highest VOC contents out of all inks and coatings provided are used to estimate the emissions for the highest emitting scenario.
- All VOCs are assumed to be Precursor Organic Compounds (POC).

Annual Emissions:

	VOC Content (lbs VOC/gal)	Emission Factor	Proposed Throughput (gallons/yr)	Annual Emission (lbs/yr)
Inks	1.55	0.80	2500.00	3100.00
Aqueous Coatings	0.43	1.00	500.00	215.00
Blanket Wash CA	0.75	1.00	70.00	52.50
Powerklene AWS	0.56	1.00	40.00	22.40
Fountain Concentrate 170-46	5.17	1.00	15.00	77.55
			Total POC (lbs/yr) =	3467.45
			Total POC (tons/yr) =	1.734

Maximum Daily Emissions:

Daily emissions are calculated to establish whether a source triggers BACT (the potential to emit 10 lbs or more per highest day for any class of pollutants). The facility reported that S-38 would be in operation 200 days per year.

Daily POC Emission = (3467.45 lbs/yr) / (200 days/yr) = 17.34 lbs/day

Plant Cumulative Increase (tons/yr):

POC = 21.350 TPY (existing) + 1.734 TPY (new) = 23.084 TPY

TOXICS RISK SCREENING ANALYSIS

Toxics emissions were estimated based on the proposed usage limits and the maximum weight percent of each toxic air contaminant (TAC) identified in the provided Material Safety Data Sheets (MSDS). No toxics emissions exceeds the District Risk Screening Trigger Levels in Regulation 2-5 as shown in Table 1 below, and a Health Risk Screening Analysis is not required.

Table 1. Toxics Emission Summary

TAC	Annual Emission (lbs/yr)	Chronic Trigger (lbs/yr)	Trigger?	Hourly Emission (lbs/hr)*	Acute Trigger (lbs/hr)	Trigger?
EGBE	115.19	N/A	No	0.29	31	No
Xylene	7.11	27,000	No	0.02	49	No
Ethylene Glycol	25.86	15,000	No	0.06	N/A	No

*Note: The minimum operating time of 2 hrs/day is used per Division Policy titled "Guidance for Calculating Maximum Hourly Toxic Air Contaminant Emission Rates" and dated June 16, 2005

STATEMENT OF COMPLIANCE

District's Regulations:

The owner/operator of S-38, Lithographic Press, is subject Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations. The highest VOC content out of all inks and coatings provided is less than 1.55 lbs/gallon, and therefore complies with the VOC limit of 2.5 lbs/gallon in Regulation 8-20-302. The fountain solution, as applied by mixing 15 oz of Fountain Concentrate 170-46 and one gallon of water, contains less than 3% VOC by volume, which meets the limit of 8% VOC by volume in Regulation 8-20-302. As specified in the MSDS, the Blanket Wash CA contains up to 0.75 lbs VOC/gallon, and complies with the VOC limits of 5.0 lbs/gallon (effective 7/1/09) and 0.83 lbs/gallon (effective 7/1/10) for lithographic presses with automatic washing in Regulation 8-20-309. The cleanup solvent, Powerklene AWS with VOC content of 0.56 lbs/gallon, also meets the VOC limit of 4.2 lbs/gallon (effective 7/1/09) and 0.83 lbs/gallon (effective 7/1/11) for lithographic presses in Regulation 8-20-309. The owner/operator is expected to adhere to the solvent loss minimization requirements in

Regulation 8-20-320 and is subject to periodic inspections conducted by the District. In addition, the recordkeeping requirements in Regulation 8-20-503 will be specified in the permit condition.

California Environmental Quality Act (CEQA):
The project is considered to be ministerial under the District's CEQA regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emissions factors outlined in the Permit Handbook Chapter 5.3, and therefore is not discretionary as defined by CEQA.

Public Notification:
This project is within 1000 feet from the nearest school and is therefore subject to the public notification requirements in Regulation 2-2-412. Public notification will be distributed to parents or guardians of children enrolled at Lipman Middle School, and all residential and business neighbors within 1,000 feet of the proposed new source. There will be a 30-day period for public response to this proposal.

Best Available Control Technology (BACT):
In accordance with Regulation 2-2-301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10}. Based on the emission calculations above, POC emissions are estimated to be 17.34 lbs/day, and the owner/operator of S-38 is subject to the BACT requirements for POC.

The District's BACT requirements for "Lithographic or Offset Printing – Heatset" are addressed in the BACT Guideline, document #110.1.1. The owner/operator uses a fountain solution that is less than 3% VOC by volume, and therefore meets the BACT1 limit of less than or equal to 6% VOC by volume. BACT1 also requires an automatic blanket and roller wash with solvent capture and recycle, and S-38 is equipped with an automatic blanket washer. The cleanup solvents have VOC content less than 0.8 lbs/gallon, which meets the BACT1 VOC content limit of 2.5 lbs/gallon for cleanup solvents. The owner/operator uses soybean oil based inks, which are low in VOC and similar to the kerosene-like oil based inks that are BACT1.

If cost effective, BACT 1 requires an overall capture and destruction efficiency of POC by at least 98.5% or an emission reduction of 1.708 TPY of POC. The following table shows the cost of abatement using EPA Con-Co$t spreadsheets (See Attachment 1: Con-Co$t Spreadsheets).

Abatement Device	Total Annualized Cost	Cost per ton VOC
Carbon Adsorbers	$206,681	$121,008
Catalytic Incinerator	$915,758	$536,158
Thermal Incinerator	$1,053,145	$616,595

The cost of each abatement device exceeds $17,500/ton, and therefore it is not cost

effective to implement add-on abatement (BACT 1) for S-38, Lithographic Press.

Offsets:
Offsets must be provided for any new or modified source at a facility that emits more than 10 ton/yr of POC or NOx. If the facility emits more than 10 tons per year but less than 35 tons per year of POC, the District will provide the emission offsets from the Small Facility Bank at a 1.0 to 1.0 ratio. Based on the permitted cumulative emissions, the facility will be permitted for 23.084 tons of POC emissions per year including the increase from S-38. Therefore, the emission reduction credits of 1.734 TPY are required for this application, and will be provided from the District's Small Facility Banking account.

Prevention of Significant Deterioration (PSD):
The emission increase resulting from this project is expected to be less than 2 TPY of POC. Since it is far below the PSD thresholds, the project is not subject to PSD review.

New Source Performance Standards (NSPS):
40 CFR 60 Subpart QQ—"Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing" does not apply because S-38 is not a rotogravure printing press.

National Emissions Standards for Hazardous Air Pollutants (NESHAPS):
40 CFR 63 Subpart KK—National Emission Standards for the Printing and Publishing Industry applies to rotogravure and flexographic printing presses. Since S-38 is neither type of printing presses, it is not subject to 40 CFR 63 Subpart KK.

PERMIT CONDITIONS

S-38 will be subject to the following permit condition:

Permit Condition # 24647

1. The owner/operator of S-38 shall not exceed the following usage limits during any consecutive twelve-month period:
Inks: 2500 Gallons @ 1.55 lbs VOC/gallon
Aqueous Coatings: 500 Gallons @ 0.43 lbs VOC/gallon
Blanket Wash CA: 70 Gallons @ 0.75 lbs VOC/gallon
Powerklene AWS (cleanup solvent): 40 Gallons @ 0.56 lbs VOC/gallon
Fountain Concentrate 170-46: 15 Gallons @ 5.17 lbs VOC/gallon
(Basis: Cumulative Increase)

2. The owner/operator may use an alternate ink(s), coating(s) or cleanup solvent(s) other than the materials specified in Part 1 and/or usages in excess of those specified in Part 1, provided that the owner/operator can demonstrate that all of the following are satisfied:

a) Total POC emissions from S-38 do not exceed 3467 pounds in any consecutive twelve-month period;
b) The use of these materials does not increase toxic emissions above any risk screening chronic trigger level of Table 2-5-1 in Regulation 2-5.
(Basis: Cumulative Increase; Toxics)

3. The owner/operator of S-38 shall use only kerosene-like oil based inks (e.g. soybean oil based inks), cleanup solvents with less than 0.8 lbs VOC per gallon, fountain solutions with VOC concentration no more than 6% by volume, and equip S-38 with automatic blanket and roller wash with solvent capture and recycle. (Basis: BACT)

4. To determine compliance with the above parts, the owner/operator shall maintain the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
a) Quantities of each type of coating and cleanup solvent used at this source on a monthly basis.
b) If a material other than those specified in Part 1 is used, POC/NPOC and toxic component contents of each material used; and mass emission calculations to demonstrate compliance with Part 2, on a monthly basis;
c) Monthly usage and/or emission calculations shall be totaled for each consecutive twelve-month period.
All records shall be retained on-site for 36 months, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
(Basis: Regulation 8-20-503; Cumulative Increase; Toxics)

End of Condition

RECOMMENDATION

Waive the Authority to Construct and issue the Permit to Operate to Fong Brothers Printing, Inc. for the following source:

S-38 Heatset Lithographic Printing Press: Mitsubishi 3000LX-6-C-DIS; equipped with automatic blanket wash with solvent capture and recycle.

by_____date__6/2/10_____
Xuna Cai
Air Quality Engineer