



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

**GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT
APPLICATION INSTRUCTIONS**

General Permit BAQ-GPA/GP-25: Heatset Web Offset Lithographic Printing Presses

1. The owner or operator of any heatset web offset lithographic press (hereinafter referred to as “heatset web press”) proposing to operate under General Plan Approval and/or General Operating Permit (BAQ-GPA/GP-25) must comply with the terms and conditions specified therein. Failure to conform to the applicable laws, rules and regulations and terms and conditions of this General Permit, for any reason, are grounds for the revocation or suspension of the permittee's authorization to operate under this General Permit.
2. BAQ-GPA/GP-25 has been established in accordance with the provisions described in 25 Pa. Code Chapter 127, Subchapter H (relating to general plan approvals and general operating permits) and is not applicable to a heatset web press regulated by any of the following:
 - a. Any stationary air contamination source that is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter D (relating to prevention of significant deterioration);
 - b. Any stationary air contamination source that is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter E (relating to new source review);
 - c. Any stationary air contamination source that is subject to the requirements of 25 Pa. Code Chapter 127, Subchapter G (relating to Title V operating permits);
 - d. Any stationary air contamination source that is subject to the requirements of 25 Pa. Code § 129.91 (relating to control of major sources of NO_x and VOCs).

Guidance regarding these requirements may be obtained by contacting the Air Program in the appropriate DEP Regional Office.

3. The permittee must keep copies of the General Permit and applications at the facility and shall make them available to the Department upon request.
4. An applicant seeking authorization to use BAQ-GPA/GP-25 must fulfill the Compliance Review Form requirements specified in 25 Pa. Code § 127.412.
5. Authorization to use BAQ GPA/GP-25 is valid for a fixed term of five (5) years. The applicable fees are set forth in Condition 9 of the General Permit. An application for renewal and the renewal fee must be submitted at least thirty (30) days prior to expiration of the authorization to use the General Permit.
6. A general Plan Approval Application and fee is required each time the permittee installs or modifies a heatset web press in accordance with this General Permit.

7. The application and fees specified in Condition 9 of BAQ-GPA/GP-25 shall be submitted to the appropriate DEP Regional Office.
8. As required under section 1905-A of the Administrative Code, a facility owner or operator proposing to use the General Plan Approval/ General Permit shall submit a copy of the application to each municipality in which the sources will be constructed, modified or operated under the BAQ-GPA/GP-25 General Permit. The notice to municipalities shall be provided at least 15 working days prior to submitting the application to the Department. Proof of the municipal notice must accompany the application subsequently submitted to the Department.
9. The permittee may not transfer authorization to operate under this General Permit. The new owner shall submit a new application and fees as described in Condition 9 of the General Permit.
10. An applicant seeking approval to use BAQ-GPA/GP-25 shall submit necessary calculations with any supporting documents to justify the emission numbers furnished in sections F and G of the application.
11. The potential to emit of any heatset web press proposing to operate under BAQ-GPA/GP-25 shall be limited by the information including but not limited to hours of operation, production rate etc., as provided in the application.

Emission Calculation Method:

Any owner/operator of heatset web offset lithographic printing press(es) subject to this Heatset Web Press General Permit shall calculate the monthly VOC emission rate for all inks, coatings, fountain solutions, and cleanup materials using the following approach:

$$E_n = [U_n \times V_n \times (1 - R_n/100) \times \{1 - (C_n/100) \times (K/100)\}]$$

Where:

E_n = VOC emissions from an individual material (tons VOC emitted/month);

U_n = Total usage of the individual material - typically ink, fountain solution, and cleaning solvents (tons of material/month);

V_n = Average VOC content of material as determined by Method 24 (lb VOC/lb material);

R_n = Amount of VOC retained on the web or on cloths (tons VOC retained/100 tons VOC used):

$R_n = 20$ for inks

$R_n = 0$ for fountain solutions

$R_n = 0$ for auto blanket wash (cleanup) solvent

$R_n = 50$ for hand blanket wash (cleanup) solvent

C_n = Capture efficiency for individual material emitted (tons VOC captured/100 tons VOC into dryer):

$C_n = 100$ for inks

$C_n = 70$ for fountain solutions

$C_n = 40$ for auto blanket wash (cleanup) solvent

$C_n = 0$ for hand blanket wash (cleanup) solvent; and

K = Control efficiency as determined during the most recent stack test and maintained via parametric monitoring (tons VOC controlled/100 tons VOC into thermal oxidizer). $K = 0$ for uncontrolled presses.

The total annual VOC emission rate of all graphic arts materials employed, in tons/month, calculated as follows:

$$E_M = E_1 + E_2 + E_3 + \dots + E_n$$

Where:

E_M = Monthly VOC emissions, in tons/month; and,

E_n = VOC emissions from each individual graphic arts material

Fountain Solution Batch VOC Content Form

Fountain Solution Concentrate

Name: _____

Formula Number: _____

Density(lbs/gal)*: _____

VOC Content (lbs/gal)**: _____

Fountain Solution Additive

Name: _____

Formula Number: _____

VOC Content (lbs/gal)*: _____

* VOC content may be determined by either using the Material Safety Data Sheet, conducting USEPA Method 24, or by summing the percent composition of each individual VOC and multiplying it by the density. Do not include exempt VOCs, such as Acetone, t-Butyl Acetate, Methylene Chloride and 1,1,1-Trichloroethane.

_____ Ounces of Fountain Concentrate Added Per Gallon of Water.

_____ Ounces of Fountain Additive Added Per Gallon of Water.

Press-Ready VOC Concentration:

1. Weight of VOC in Concentrate = $\frac{\text{Oz. Concentrate} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
2. Weight of VOC in Additive = $\frac{\text{Oz. Additive} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
3. Weight Percent VOC = $\frac{\text{Result of Steps 1+2}}{\text{Result of 1+2} + 8.33}$

Fountain Solution VOC Addition Form

Indicate When Any VOC Is Added To Press Ready Fountain Solution

Date	Press or Fountain Recirculator	Material Added	Amount Added In Ounces	Final VOC Content In Weight Percent

Final Press-Ready VOC Concentration:

1. Weight of VOC in Concentrate = $\frac{\text{Oz. Concentrate} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
2. Weight of VOC in Additive = $\frac{\text{Oz. Additive} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
3. Weight of VOC Added = $\frac{\text{Oz. Added VOC} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
4. Weight Percent VOC = $\frac{\text{Result of Steps 1+2+3}}{\text{Result of 1+2+3} + 8.33}$

Cleaning Solution Batch VOC Content Form

Cleaning Solution Concentrate

Name: _____

Formula Number: _____

VOC Content (lbs/gal)*: _____

Cleaning Solution Additive

Name: _____

Formula Number: _____

VOC Content (lbs/gal)*: _____

* VOC content may either be obtained from the Material Safety Data Sheet, conducting USEPA Method 24, or determined by summing the percent composition of each individual VOC and multiplying it by the density. Do not include exempt VOCs, such as Acetone, t-Butyl Acetate, Methylene Chloride and 1,1,1-Trichloroethane.

_____ Ounces of Cleaning Solution Concentrate Added Per Gallon of Water.

_____ Ounces of Cleaning Solution Additive Added Per Gallon of Water.

Press Ready VOC Concentration:

1. Weight of VOC in Concentrate = $\frac{\text{Oz. Concentrate} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
2. Weight of VOC in Additive = $\frac{\text{Oz. Additive} \times \text{VOC Content (lbs/gal)}}{128 \text{ oz/gal}}$
3. Weight Percent VOC = $\frac{\text{Result of Steps 1+2}}{\text{Result of 1+2} + 8.33}$

HEATSET WEB PRESS GENERAL PERMIT RECORDKEEPING FORMAT

Month: _____

Inks:

<u>Vendor</u>	<u>Color</u>	<u>Formula #</u>	<u>VOC Content¹</u>	<u>HAP</u>	<u>HAP Content²</u>	<u>Usage³</u>	<u>VOC⁷ Emissions</u>	<u>HAP⁷ Emissions</u>
ABC Inks	Black	P-45701	35%	N/A`	N/A	10,000 lbs.		

Fountain Solution Concentrate:

<u>Vendor</u>	<u>Formula #</u>	<u>VOC Content⁴</u>	<u>VOC Content As Applied¹</u>	<u>HAP</u>	<u>HAP Content⁵</u>	<u>Usage³</u>	<u>VOC⁷ Emissions</u>	<u>HAP⁷ Emissions</u>
Wet All I	WA-001	2.3	4.5%	2-Butoxyethanol	2.3	200 gal		

Fountain Solution Additive:

<u>Vendor</u>	<u>Formula #</u>	<u>VOC Content⁴</u>	<u>VOC Content As Applied⁴</u>	<u>HAP</u>	<u>HAP Content⁵</u>	<u>Usage³</u>	<u>VOC⁷ Emissions</u>	<u>HAP⁷ Emissions</u>
Wet All II	WA-002	6.0	4.5%	2-Butoxyethanol	6.0	200 gal		

Cleaning Solutions:

<u>Vendor</u>	<u>Formula #</u>	<u>VOC Content⁴</u>	<u>VOC Content As Applied⁴</u>	<u>Vapor Pressue⁶</u>	<u>HAP</u>	<u>HAP Content⁵</u>	<u>Usage³</u>	<u>VOC⁷ Emissions</u>	<u>HAP⁷ Emissions</u>
Clean All	CA-010	7.5	100%	5 mmHg	Xylene, cumene 2-Butoxyethanol	2.0	850 gal		

Coatings:

<u>Vendor</u>	<u>Formula #</u>	<u>VOC Content^{1,4}</u>	<u>VOC Content As Applied^{1,4}</u>	<u>HAP</u>	<u>HAP Content^{2,5}</u>	<u>Usage³</u>	<u>VOC⁷ Emissions</u>	<u>HAP⁷ Emissions</u>
Coatings, Inc.	P-46400	42.6%	42.6%	N/A	N/A	2,000 lbs		

¹ VOC content in weight percent

² HAP content in weight percent

³ Usage in pounds or gallons

⁴ VOC Content in pounds/gallon

⁵ HAP Content in pounds/gallon

⁶ Vapor pressure in millimeters of mercury (mm Hg)

⁷ Use appropriate emission/retention factors and control device efficiencies as identified in permit application

12-Month Totals

The U. S. Environmental Protection Agency requires the Department to track emissions on a 12-month total basis rather than on a calendar basis. This means that emission estimates should be recalculated each month totaling emissions that occurred during the last 12 months. For example, at the end of March, 2008 you would total the emissions which occurred from April, 2007 through March, 2008; at the end of April, 2008 you would total the emissions which occurred from May, 2007 through April, 2008, etc.

Sample Form

12-Month Totals for Calendar Year - - - -

<u>Month</u>	<u>VOCs</u>	<u>HAPs</u>	<u>12-Mon. Tot. VOCs</u>	<u>12-Mon. Tot. HAPs</u>
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				