

Louisville Metro Air Pollution Control District
850 Barret Ave., Louisville, Kentucky 40204
29 July 2015

Federally Enforceable District Origin Operating Permit
Statement of Basis

Company: Gateway Press, Inc

Plant Location: 4500 Robards Lane, Louisville, Kentucky 40218

Date Application Received: 16 February 2007; 8 April 2010; 7 August 2013; 25 February 2015

Date of Draft Permit: 29 July 2015

District Engineer: Elise Venard

Permit No: O-0617-15-F

Plant ID: 0617

SIC Code: 2752

NAICS: 327110

Introduction:

This permit will be issued pursuant to District Regulation 2.17- *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM_{2.5}) and is a unclassifiable area for the 2012 standard for particulate matter less than 2.5 microns (PM_{2.5}) and partial non-attainment for sulfur dioxide (SO₂).

Application Type/Permit Activity:

- Initial Issuance
- Permit Revision
 - Administrative
 - Minor
 - Significant
- Permit Renewal

Compliance Summary:

- Compliance certification signed
- Compliance schedule included
- Source is out of compliance
- Source is operating in compliance

I. Source Information

1. **Product Description:** Gateway Press, Inc. is a lithographic printing facility, consisting of one (1) print shop facility.
2. **Process Description:** The business performs lithographic sheet-fed and web printing, finishing, and binding services.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent to this facility
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
Plant-wide	All plant-wide applicable units
U1	Three (3) sheet-fed, offset lithography presses: one (1) Heidelberg Eastern and , two (2) Mitsubishi Diamond
U2	One (1) Harris Graphics heatset web offset lithographic press. One (1) Man Roland heatset web off-set lithographic press and associated oxidizer

5. **Fugitive Sources:** N/A

6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	0075-97-F	4/22/1997	3/16/1997	Initial	Entire Permit	Initial Permit Issuance
R1	0075-97-F (R1)	4/22/1997	5/6/2000	Administrative	General Conditions Pages 2-4	Minor revision to update General Conditions and permit attachments 24-96 and 25-96
R2	0075-97-F (R2)	5/12/2002	5/12/2002	Renewal	Entire Permit	Scheduled 5-year permit renewal
R3	0075-97-F (R3)	6/12/2002	11/9/2003	Administrative	Entire Permit	Revisions to incorporate construction permit 282-02-C
N/A	O-0617-F	x/x/2015	7/29/2015	Renewal	Entire Permit	Permit renewal with changes to include:

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
						<ul style="list-style-type: none"> • STAR-exempt status • Change in Responsible Official • Removal of equipment 75-97-F (R3) attachment 23.85 • Removal of equipment 75-97-F (R3) attachment 290-89 • Removal of equipment 75-97-F (R3) attachment 174-93 • Removal of equipment 75-97-F (R3) attachment 24-96 • Addition of Insignificant Activity and Miscellaneous Activity equipment to the permit

7. Construction Permit History:

Permit No.	Issue Date	Description
380-05-C	12/31/2006	Undecided make & model, heatset, offset, web press
381-05-C	12/6/2006	Undecided make & model, combustion device for 380-05-C
108-09-C	4/22/2009	Mitsubishi Diamond, 6-color, sheet-fed offset press

8. Emission Summary:

Pollutant	District Calculated Emissions (ton/year) 2008	Pollutant that triggered Major Source Status (based on 2015 PTE)
VOC	22.76	Yes
Total HAPs	1.48	No
Single HAP (Diethylene Glycol)	0.9	No

9. Applicable Requirements:

PSD 40 CFR 60 SIP 40 CFR 63
 NSR 40 CFR 61 District-Origin Other

10. MACT Requirements: The source has no future MACT requirements.

11. Referenced non-MACT Federal Regulations in Permit: N/A

II. Regulatory Analysis

1. Acid Rain Requirements: Gateway Press is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements: Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Gateway Press does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r): Gateway Press does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, *Chemical Accident Prevention Provisions*, in a quantity in excess of the corresponding specified threshold amount.

4. 40 CFR Part 64 Applicability Determination: Gateway Press is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*.

5. Basis of Regulation Applicability**a. Emission Unit Plant-wide**

This source is a potential major source for VOC. Regulation 2.17– Federally Enforceable District Origin Operating Permits establishes requirements to limit the plant-wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

Regulation 2.17, section 5.1 allows the District to incorporate operational limits into the permit. This source requested a plant-wide emission limit of 25 tons per year for criteria pollutants, 12.5 tons per year for Total HAPs, and 5 tons per year for individual HAPs. The source is not major for Greenhouse Gases.

Regulation 2.17, section 5.2 requires monitoring and recordkeeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued shall submit an Annual Compliance Certification (Form 9440-O) by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit an Annual Compliance Report to show compliance with the permit, by March 1 of the following calendar year. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17, section 3.5.

b. Emission Unit U1 – Sheet-Fed Pressroom

i. Equipment:

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
HEID-2: Heidelberg Eastern model '102 ZP', 2-color, print area of 1120 in ²	10,000 sheet/hour	3/1982	2.17 7.25	Regulation 2.17 applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit. Regulation 7.25 provides for the control of emissions of volatile organic compounds from new (built after December 16, 1987) sources.
MIT-8C: Mitsubishi Diamond model '3000R', 8-color, print area of 1120 in ²	13,000 sheet/hour	6/2002		
MIT-6C: Mitsubishi 'Diamond Series', 6-color, print area of 1120 in ² , with a coating unit	16,000 sheet/hour	4/2009		

ii. Standards/Operating Limits

1) VOC

- (a) Per Regulation 7.25 establishes VOC emission limits and raw material VOC-content limits through Best Available Control Technology (BACT).

c. Emission Unit U2 – Web pressroom

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
M-300: Harris Graphics model 'M300', 4-color, printing area of 819 in ² , with automatic blanket wash	1,200 fpm	6/1983	2.17 6.43 7.25	Regulation 2.17 applies to any stationary source, or one or more processes or process equipment at a stationary source, for which the owner or operator voluntarily applies for a federally enforceable District origin operating permit. Regulation 6.43 applies to the Harris Graphics M300 heatset web offset press. (section 14). Regulation 7.25 provides for the control of emissions of volatile organic compounds from new (built after December 16, 1987) sources.
Rotoman: Man Roland model 'Rotoman', 8-color, printing area of 864.5 in ² , with automatic blanket wash	79,140 sheet/hr	6/2007	2.17 7.25	
TNV Oxidizer: MEGTEC model 'Dual-Dry', thermal recuperative oxidizer, uses natural gas fuel	2.25 MMBtu	6/2007	2.17 7.25	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) By Regulation 6.43, section 14, the emissions standards and limits for the M-300 press have been set to best control and reduce VOC emissions.
- (b) Regulation 7.25 establishes VOC emission limits and raw material VOC-content limits through Best Available Control Technology (BACT).

III. Other Requirements

- 1. **Temporary Sources:** The source did not request to operate any temporary facilities.
- 2. **Short Term Activities:** The source did not report any short term activities.
- 3. **Emissions Trading:** N/A
- 4. **Operational Flexibility:** The source did not request any operation flexibility.
- 5. **Compliance History:**

There are no records of any viable violations of the terms of the present or prior construction or operating permits.

6. Calculation Methodology or Other Approved Method:

The USEPA published a Control Technology Guidance Document (CTG) in September 1993 and subsequently published a draft Alternative Control Techniques Document (ACT) I November 1993 for offset lithographic printing. The emissions information provided by these documents were used to limit the source’s potential to emit to below major source threshold levels. The following assumptions were used to establish permit terms and conditions to limit the potential to emit from this facility.

- For sheet-fed inks, ninety (90) percent of the ink oil is retained in the substrate and not emitted into the atmosphere. Sheet-fed inks used at the plant may contain no more than 18% by weight VOC
- For heatset inks, twenty (20) percent of the ink oil is retained in the substrate and not emitted into the atmosphere. A ninety-five percent capture efficiency is assumed for heatset ink.
- For fountain solution, the company uses alcohol substitutes, specifically, glycol ethers. It is assumed that 70% of the fountain solution carries over into the dryer on heatset web presses.
- For automatic blanket wash (vapor pressure < 10 mmHg at 68°F), 40% of the blanket wash carries over into the dryer on heatset web presses.
- For solvents (vapor pressure < 10 mmHg at 68°F) used to manually clean press components, Gateway Press ships the rags/wipes to an off-site facility located in Bowling Green, Kentucky where fifty (50) percent of the solvent is recovered.

Heatset Web Press

$$E_{VOC} = \frac{[(I_{voc})(I_{Ret})(C_{HI})+(FS_{voc})(C_{FS})+(BW_{voc})(C_{BW})](CE) + [(0.05)(I_{voc})] + [(0.30)(FS_{voc})] + [(0.60)(BW_{voc})] + [N_{voc}(R)] + Et_{voc} + [(M_{VOC})(R)]}{}$$

- E_{VOC} = lbs VOC Emissions
- I_{voc} = lbs of heatset ink used X weight % VOC in heat-set ink.
- I_{Ret} = 0.80 (1-Ink oil retention factor of 0.20 for heatset inks)
- C_{HI} = 0.95 (Capture Efficiency for heatset Ink)
- FS_{voc} = Qty of fountain sol’n Used (gal) X VOC content of fountain sol’n (lbs/gal)
 - solution reservoir temperature shall be maintained at or below 60°F
- C_{FS} = 0.70 (Capture Efficiency for fountain solution using alcohol substitutes)
- BW_{voc} = Qty of blanket wash used (gallons) X VOC content of blanket wash (lbs/gal)
 - vapor pressure < 10mm Hg at 68°F
- C_{BW} = 0.40 (Capture Efficiency for Blanket Wash)
- CE = Control Efficiency (if applicable) - For Catalytic Oxidizer (95%), the RTO 98%
- N_{voc} = Qty of naphtha used (gallons) X VOC content (lbs/gal)
- Et_{voc} = Qty of etch used (gallons) X VOC content (lbs/gal)
- M_{VOC} = Quantity of mineral spirits (gal) X VOC content (lbs/gal)
- R = 1.00 or 0.50 (Fraction of cleanup solvent unrecovered)
 - vapor pressure < 10mm Hg at 68°F

Sheet-fed Press

$$E_{VOC} = (I_{voc})(I_{Ret}) + FS_{voc} + BW_{voc} + N_{voc} (R) + M_{VOC}(R) + Et_{voc}$$

- E_{VOC} = lbs VOC Emissions
- I_{voc} = lbs of sheet-fed ink used X weight % VOC in sheet-fed ink (0.18 maximum)
- I_{Ret} = 0.05 (1 - Ink oil retention factor of 0.95 for sheet-fed inks)
- FS_{voc} = Qty of fountain sol'n Used (gal) x VOC content of fountain sol'n (lbs/gal)
 - solution reservoir temperature shall be maintained at or below 60°F
- BW_{voc} = Qty of blanket wash used (gallons) x VOC content of blanket wash (lbs/gal)
 - vapor pressure < 10mm Hg at 68°F
- N_{voc} = Qty of naphtha used (gallons) x VOC content (lbs/gal)
- M_{VOC} = Quantity of mineral spirits (gal) X VOC content (lbs/gal)
- Et_{voc} = Qty of etch used (gallons) x VOC content (lbs/gal)
- R = 1.00 or 0.50 (Fraction of cleanup solvent unrecovered)
vapor pressure < 10mm Hg at 68°F

7. Insignificant Activities

Equipment	Quan.	PTE (tpy)	Regulation
Cold Metal Parts Washer	1	0.440	6.18
Printing Platemaker	1	0.056	7.25
Gluer/folder	1	1.500	7.25

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
- 3) The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
- 6) The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

IA-1 Equipment: Miscellaneous VOC-Emitting Equipment

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
----------------	-----------	----------	-----------	------------------------

IA-1a	Printing Platemaker	1	0.056 VOC	7.25
IA-1b	Gluer/folder	1	1.5 VOC	

IA-2 Equipment: Parts Washer

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
IA-2	Cold Metal Parts Washer without a secondary reservoir	1	0.440	6.18

Source-Wide Activities Not Otherwise Regulated

Equipment	Quan.	PTE (tpy)	Regulation Basis
Maintenance Brazing, soldering, or welding equipment	2	Trivial	EPA White Papers

Idled Control Devices:

The owner or operator must inform the District prior to reinstating either of these idled units.

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
Tec-4000	TEC 'HXC4000' Catalytic Oxidizer rated at 4000 scfm / 1.5 MM BTU/hour	95%	650°F	S-6 (stack)
Quantum 3000	TEC Quantum 3000 Catalytic Oxidizer rated at 3000 scfm	95%	650°F	S-5 (stack)