

**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:** Print Fulfillment Services LLC

**Plant Location:** 2929 Magazine St., Louisville, Kentucky 40211

**Date Application Received:** 8/30/2007; 12/11/ 2014; 4/24/2015; 5/29/2015

**Date of Draft Permit:** 14 February 2014; 29 July 2015

**District Engineer:** Randy Schoenbaechler

**Permit No:** O-1582-15-F

**Plant ID:** 1582

**SIC Code:** 2752

**NAICS:** 323110

**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 (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>) and is a unclassifiable area for the 2012 standard for particulate matter less than 2.5 microns (PM<sub>2.5</sub>) and partial non-attainment for sulfur dioxide (SO<sub>2</sub>).

**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:** Print Fulfillment Services LLC is a printing operation.
2. **Process Description:** Lithographic and digital printing.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent to this facility.
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
UPW	Plant-wide
U1	UV Coaters
U2	Lithographic Printing Presses
U3	Digital Printers

5. **Fugitive Sources:** None

6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	27871-14-F	3/24/2014	2/14/2014	Initial	Entire Permit	Initial FEDOOP Issuance
N/A	O-1582-15-F	Xx/xx/xxxx	7/29/2015	Significant	Entire Permit	VOC < 25 tn/yr to be FEDOOP STAR Exempt Removed TAC requirements Deleted non-applicable Permit Shield, Off-Permit Document, and Alternative Operating Scenario references  Removed two printers: One (1) Ko Tai UV screen coater, model WPT1020, and One (1) four color Fujifilm FJ-1C1 digital inkjet printer with a Fujifilm Jpress 7200 IR dryer  Addition the following:

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
						New (E4) One (1) FMA roll coater New (E13) One (1) four color Fuji 720S (JP720F) with IR dryer New (E14, and E15) Two (2) four color Hewlett Packard HP 10000

**7. Emission Summary:**

Pollutant	Plantwide PTE 2015	Pollutant that triggered Major Source Status (based on PTE)
VOC	223.72	Yes
HAP-T	7.93	No
HAP-1 Ethylbenzene	4.17	No

**8. Applicable Requirements:**

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

**9. MACT Requirements:** The source has no future MACT requirements.

**10. Referenced non-MACT Federal Regulations in Permit:** There are no federal regulations referenced in this permit.

**II. Regulatory Analysis**

**1. 40 CFR Part 82 -- Protection of Stratospheric Ozone** “Stratospheric Ozone Protection Requirements”: This source does not meet the provisions listed under 40 CFR Part 82, Subpart A and is not subject to this regulation.

**2. 40 CFR Part 68 – Chemical Accident Prevention** Provisions “Prevention of Accidental Releases 112(r)”: This source does not meet the provisions listed under 40 CFR Part 68, Subpart F and is not subject to this regulation.

**3. Basis of Regulation Applicability**

**a. Emission Unit UPW -- 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 record keeping 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 5.2 requires sufficient reporting and testing to assure ongoing compliance with the terms and conditions of the permit. Stack testing for RTO or CTO should be performed at least once every 10 years.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued shall submit an Annual Compliance Certification 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 – UV Coaters**

**i. Equipment:**

<b>Emission Point ID</b>	<b>Description Make/Model</b>	<b>Applicable Regulation</b>	<b>Control Device (Control ID)</b>	<b>Application Date</b>	<b>Basis for Applicability</b>
E1	Sakurai UV screen coater, model MS102A2	2.17 7.25	N/A	1/28/2010	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
E2	Sakurai UV screen coater, model		N/A	4/25/2008	

	MS102A2				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.
E3	Sakurai UV screen coater, model MS102A2		N/A	4/21/2008	
E4	FMA UV roll coater		N/A	5/29/2015	
E5	Ko Tai UV roll coaters, model ZUV-1200All		N/A	3/28/2006	
E6	Ko Tai UV roll coaters, model ZUV-1200All		N/A	3/28/2006	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Per Regulation 7.25, the District has determined that the following VOC requirements represent the Best Available Control Technology (BACT) annual limits for UV coaters, E4 through E6. All three coaters combined are limited to 5 tons per 12 consecutive month period.
- (b) Per Regulation 7.25, the District has determined that the following VOC requirements represent the Best Available Control Technology (BACT) for the UV coaters E1 through E6.

Raw Material	BACT Limit
UV-cured coatings (Kelstar Ultra Sheen)	1.0% by weight VOC
Cleaning solvents	2.0% by weight VOC

c. **Emission Unit U2 -- Lithographic Printing Presses**

i. **Equipment**

<b>Emission Point ID</b>	<b>Description Make/Model</b>	<b>Applicable Regulation</b>	<b>Control Device (Control ID)</b>	<b>Application Date</b>	<b>Basis for Applicability</b>
E7	KBA, model Rapida 105 8-color lithographic sheetfed non heat set printer	2.17 7.25	N/A	8/1/2008	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.
E8	KBA, model Rapida 74G, model RA74G5LALV2, 5-color offset lithography sheet-fed printing press		N/A	3/26/2007	
E9	KBA, model Karat 74, 4-color digital offset lithography sheetfed printing press		N/A	3/17/2006	
E10	KBA, model Karat 74, 4-color digital offset lithography sheetfed printing press		N/A	12/13/2005	
E11	KBA, model Karat 74 offset lithography sheet-fed printing press		N/A	2/5/2007	
E12	KBA, model Karat 74 offset lithography sheet-fed printing press		N/A	2/5/2007	

ii. **Standards/Operating Limits**

1) **VOC**

- (a) Per Regulation 7.25, the District has determined that the following VOC requirements represent the Best Available Control Technology (BACT) annual limits for sheet-fed presses.

Press	VOC BACT Limit
E7	15.0 tons
E8	15.0 tons
E9	7.5 tons
E10	7.5 tons
E11 & E12	15.0 tons

- (b) Per Regulation 7.25, the District has determined that the following VOC requirements represent the Best Available Control Technology (BACT) for the sheet-fed printing presses.

Raw Material	BACT Limit
Conventional Inks <sup>1</sup>	18% by weight VOC
Specialty Inks (including, but are not limited to, metallic, magnetic, fluorescent, and iridescent inks)	25% by weight VOC 10% of total ink usage
UV inks	3% by weight VOC
Fountain Solution	Non-Vinyl: 5% by weight VOC as applied; or 8.5% by weight if Chilled Fountain Solution at 60°F max.; Vinyl or Plastic Sheets: 10% by weight as applied
Blanket Wash	25% by weight VOC as applied or vapor pressure ≤ 5 mm Hg at 68°F
Roller Wash	25% by weight VOC as applied or vapor pressure ≤ 5 mm Hg at 68°F
Water-based Coatings (Aqueous)	1.0 lb VOC/gal as applied

<sup>1</sup> Per EPA guidance document for Lithographic Printing and Letterpress Printing dated September 2006, the document defines varnishes as un-pigmented offset lithography inks, and therefore are to be included in the conventional ink category.

d. **Emission Unit U3 – Digital Printers**i. **Equipment:**

<b>Emission Point ID</b>	<b>Description Make/Model</b>	<b>Applicable Regulation</b>	<b>Control Device (Control ID)</b>	<b>Application Date</b>	<b>Basis for Applicability</b>
E13	Four color Fuji 720S (JP720F) with IR dryer	2.17 7.25	N/A	4/24/2015	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.
E14	Four color Hewlett Packard HP 10000		N/A	4/24/2015	
E15	Four color Hewlett Packard HP 10000		N/A	4/24/2015	

ii. **Standards/Operating Limits**1) **VOC**

- (a) Per Regulation 7.25, VOC emission from E13, E14, and E15 shall be limited to less than 5.0 tons per 12 consecutive month period. (A BACT determination is required to be performed for any future construction/modification subject to Regulation 7.25 for any emissions outside of the 5 tpy limit.)

**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:**

Incid. #	Date	Regulation Violated	Settlement
06617	02/06/2014	Reg. 2.03, section 5, Failure to Comply with District Permit	Agreement with fine 04/10/2014

6. **Calculation Methodology or Other Approved Method:**

**Lithographic Presses:**

For the KBA presses, the owner or operator shall determine the VOC content (as applied) of each batch of press-ready fountain solution by one of the following methods.

- a) The owner or operator shall determine the VOC content of each batch of press-ready fountain solution by calculation. The calculation shall be kept in a batch log. The owner or operator shall document any deviation from the standard fountain solution makeup. Any manual additions of VOC made after each fountain solution batch is prepared shall be documented and the VOC content of the fountain solution shall be calculated to demonstrate compliance with the as applied fountain solution standard specified in this permit. Documentation of any deviations or manual additions shall include the date and time of occurrence.
- b) Alternatively, a sample of the fountain solution (as applied) may be taken from the fountain solution tray or reservoir and measured with a hydrometer, refractometer, or conductivity meter. Within 30 days after the effective date of this permit, the owner or operator shall establish the appropriate compliance indicator ranges for each of the analytical methods above the source will use to demonstrate compliance with the fountain solution VOC content (as applied). The owner or operator shall analyze the VOC content each time a fresh batch of press ready fountain solution is prepared and after each time a VOC containing material is added to the fountain solution reservoir following the initial solution makeup. The owner or operator shall maintain daily records of the results of each observed reading including the date, time, and the name of the person who observed the reading

The emissions from the presses are based on VOC and HAP content of the materials used.

The VOC emissions from the lithographic presses can be calculated according to the following methodology or another approved in writing by the District:

**Off-set Lithography Sheet-fed Presses**

$$E_{VOC} = [(I_{VOC})(I_{Ret}) + (FS_{VOC}) + (BW_{VOC}) + (RW_{VOC}) + (C_{VOC}) + ((CS_{VOC})(R))]$$

$E_{VOC}$  = lb VOC Emissions

- $I_{VOC}$  = lb of sheet-fed ink used  $\times$  weight % VOC in each ink
- $I_{Ret}$  = 0.050 (1 - Ink oil retention factor of 0.95 for non-heatset inks)
- $FS_{VOC}$  = Qty of fountain solution used (gallons)  $\times$  VOC content of fountain solution as applied (lb/gal)
- $BW_{VOC}$  = Qty of blanket wash used (gallons)  $\times$  VOC content of blanket wash as applied (lb/gal)
- $RW_{VOC}$  = Qty of roller wash used (gallons)  $\times$  VOC content of roller wash as applied (lb/gal)
- $C_{VOC}$  = Qty of coatings used (gallons)  $\times$  VOC content of coating as applied (lb/gal)
- $CS_{VOC}$  = Qty of each cleanup solvent used (gallons)  $\times$  VOC content as applied (lb/gal)
- $R$  = 1.0 or 0.50 (Fraction of cleanup solvent unrecovered)

An “R” factor of 0.50 (50 percent VOC credit) may be used for solvents (vapor pressure  $\leq$  5 mm Hg at 68°F) used to manually clean press components if the rags/wipes used to manually clean press components are stored in closed/sealed containers immediately after use and the company can document the quantity of solvent recovered.

**7. Insignificant Activities**

Equipment	Quantity	PTE (tn/yr)	Basis for Exemption
Pressurized VOC storage vessels	2	0 VOC	Regulation 1.02, Appendix A
Brazing, soldering, or welding equipment	1	0.41 PM	Regulation 1.02, Appendix A

- 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 15<sup>th</sup>.
- 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.