Louisville Metro Air Pollution Control District

850 Barret Ave., Louisville, Kentucky 40204
31 July 2015

Federally Enforceable District Origin Operating Permit Statement of Basis

Company: V. G. Reed & Sons

Plant Location: 1002 South 12th Street, Louisville, Kentucky 40210

Date Application Received: 6 April 2007; 22 September 2008; 28 October 2014; 2 December 2014; 2 March 2015

Date of Draft Permit: 31 July 2015

District Engineer: Elise Venard **Permit No:** O-0333-15-F

Plant ID: 0333 **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_2), carbon monoxide (CO), 1 hr and 8 hr ozone (O_3), and particulate matter less than 10 microns (PM_{10}); 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 (SO_2).

Application Type/Permit Activity:

[ ] Initial Issuance
[ ] Permit Revision
  [ ] Administrative
  [ ] Minor
  [ ] Significant
[X] Permit Renewal

Compliance Summary:

[ ] Compliance certification signed
[ ] Source is out of compliance
[ ] Compliance schedule included
[X] Source is operating in compliance

I. Source Information

1. **Product Description:** V. G. Reed & Sons, Inc. is a printer that includes a small binding operation.

2. **Process Description:** Lithographic printing and binding.

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	Printing presses – King III, King IV, King V, King VI, King VII, and Heidelberg
U2	1 Horizon book binder, 4 Muller stitching machines

5. **Fugitive Sources:** None

6. **Permit Revisions**:

Revision No.	Permit No.	Issue Date	Public Notice Date	Type	Scope	Description
Initial	173-01-F	11/6/2001	6/03/2001	Initial	Entire Permit	Initial Permit Issuance
N/A	O-0333-14-F	…	7/31/2015	Renewal	Entire Permit	Permit Renewal to include: • Removal of the Man Roland press, model RZK633 and Man Roland press, model RZK624 from permit 173-01-F, attachment 31-92 • Removal of the Strachan-Henshaw Veriquick press from permit 173-01-F, attachment 246-96 • Removal of the Kolbus bookbinding equipment from permit 173-01-F, attachment 97-96 • Modification of King press, model 3020 from permit 173-01-F, attachment 246-96 • Addition of Stitching emission units

Revision No.	Permit No.	Issue Date	Public Notice Date	Type	Scope	Description
						• Addition of Insignificant Activity units

7. Construction Permit History:

Permit No.	Issue Date	Description
274-07-C	6/30/2008	Unnamed make and model 8-color press
156-09-C (R1)	10/31/2009	Modification of King VII press
219-09-C	10/31/2009	Dryer and RTO added to modified King VII press
71-10-C	6/30/2010	Dryer and CTO added to King IV press
382-05-C	10/31/2006	Horizon binder, Kolbus binder (since removed)
196-09-C	10/6/2009	Kolbus model 2000-KM (since removed), with cyclone & Bailer (since repurposed to central recycling system)
197-09-C	10/6/2009	PM filter for Kolbus binding unit 196-09-C
217-09-C	10/9/2009	Cyclone Engineering abrasive blast cabinet

8. Emission Summary:

Pollutant	District Calculated Emissions (ton/year) 2008	Pollutant that triggered Major Source Status (based on 2015 PTE)
VOC	12.11	Yes
HAP-T	0.95	Yes
PM	0.011	No
PM_{10}	0.011	No
CO	NA	No
NOx	NA	No

9. Applicable Requirements:

[ ] PSD	[ ] 40 CFR 60	[X] 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: There are no federal regulations referenced in this permit.

II. Regulatory Analysis

1. Acid Rain Requirements: V.G. Reed 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. V.G. Reed 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): V.G. Reed 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: V.G. Reed 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 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 –** Lithographic Printing Presses

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
King III: King, 2-color, cold-set, sheet-fed press	22,000 sheet/hr.	11/1994	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.
King IV, King, 3020, 4-color,., heat-set and cold-set process web offset printer with dryer rated at 4.4 MMBtu /hr., and Catalytic Thermal Oxidizer rated at 0.864 MMBtu/hr.	25,000 sheet/hr	2/1997		
King V: King, 2-color, cold-set, sheet-fed press	22,000 sheet/hr.	2/1997		
King VI: King, 2-color, cold-set, sheet-fed press	22,000 sheet/hr.	11/1998		
King VII, King, F42-2-96-CNC-75, 4-color, heat-set and cold-set web press	25,000 sheet/hr.,	11/2005		

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
with dryer rated at 2.2 MMBtu/hr., and Regenerative Thermal Oxidizer rated at 3.49 MMBtu/hr.				
Heidelberg: Heidelberg model SM 102-8-P+L, 8-color, sheet-fed lithography press	15,000 sheet/hr.	6/2008		

ii. **Standards/Operating Limits**

1) **VOC**

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

(b) Regulation 7.25 establishes VOC emission limits for the King IV heatset press through temperature limits and consistent operation of the associated CTO

(c) Regulation 7.25 establishes VOC emission limits and raw material VOC-content limits through Best Available Control Technology (BACT) for the King VII press.

(d) Regulation 7.25 establishes VOC emission limits for the King VII heatset press through temperature limits and consistent operation of the associated RTO.

c. **Emission Unit U2 --** 1 Horizon book binder, 4 Muller stitching machines.

i. **Equipment**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
Horizon Perfect Binder model BQ-270 book binding unit	11,000 book.hr..	11/2005	2.17 7.08	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
Muller Martini Bravo	12,000	2007		

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
Plus Saddle stitching machine, model 335-0400	book/hr.			applies for a federally enforceable District origin operating permit. Regulation 7.08 applies to equipment installed after September 1, 1976 and subject to the PM emission standard.
Muller Bravo stitching machine, model 335-0401	12,000 book/hr.	2007		
Muller Bravo stitching machine, model 380-0400	12,000 book/hr.	2007		
Muller Bravo stitching machine, model 380-0401	12,000 book/hr.	2007		

ii. **Standards/Operating Limits**

1) **PM/PM10**

(a) Regulation 7.08 establishes particulate matter standards.

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
06506	04/15/2011	Reg. 2.17, section 7, Failure to Comply with FEDOOP Permit Reporting and Record Keeping Requirements	Agreement with fine 06/04/2013
06618	01/06/2014	Reg. 2.17, section 7, Failure to Comply with FEDOOP Permit Reporting and Record Keeping Requirements	Agreement with fine 03/18/2014

6. Calculation Methodology or Other Approved Method:

Lithographic Presses:
For the King web 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

Lithographic Presses:
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:

Heatset Web Press

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

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	Quantity	Description	Regulatory Citation
Maintenance Cutter	1	Gammerler compensating stacker trimmer & gluer, model STC-70Woodworking, except for conveying hogging or burning wood/sawdust	Regulation 1.02 Appendix A;7.08
Gluer	1	Horizon book binder model BQ-270, rated at 11,000 book/hr.	7.25

Equipment	Quantity	Description	Regulatory Citation
Cutter	1	Stahl Pharm folder, model 1.77-36	7.08
Cutter	1	Stahl 34" folder, model RF-56V2	7.08
Cutter	1	Stahl 40" folder, model RF-66V2	7.08
Cutter	1	Stahl Heidelberg folder, model RFH-82	7.08
Cutter	1	Stahl Heidelberg folder, model RFH-66	7.08
Cutter	1	Miehle Vertical die cutter, model V-50	7.08
Cutter	1	MM DK cutter, model 7590	7.08
Cutter	1	Perfecta cutter, model 132	7.08
Cutter	1	Perfecta cutter, model 115 TVC	7.08
Cutter	1	Polar cutter, model 137 EMC MON	7.08
Abrasive cabinet	1	Cyclone Engineering, model 3624, serial number 2085, rated at 90 psi, aluminum oxide, abrasive blast cabinet with bag filter system model DC1500, efficiency of 95%	7.08
PM sprayer	1	Grafix Powder Star Duo Plus XL corn starch sprayer, model 3961236-AO6	7.08
Gluer	1	Gammerler compensating stacker trimmer & gluer, model STC-70	7.25
Gluer	1	Gammerler gluer, model RS111	7.25
Gluer	1	HHS Installation KIT Xmelt gluer, model 45011700	7.25
Laminator	1	Accufeed D&K Laminator, model 27-5415	7.25
Print plate maker	1	Kodak platemaker, model MAGNUS 800	7.25
Print plate maker	1	Kodak platemaker, model NE50	7.25

Equipment	Quantity	Description	Regulatory Citation
Cold parts washer	1	Greymills | PL422A | cold solvent Metal Cleaning | pump with cleaning brush | no conveyor | no secondary reservoir	6.18

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.

a. **IA-1 Equipment -** Miscellaneous Particulate Matter Emitting Equipment

i. **Equipment**

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
IA-1a	Gammerler compensating stacker trimmer & gluer, model STC-70	1	PM = 0.259	7.08
IA-1b	Stahl Pharm folder, model 1.77-36	1	PM = 0.259	
IA-1c	Stahl 34" folder, model RF-56V2	1	PM = 0.259	
IA-1d	Stahl 40" folder, model RF-66V2	1	PM = 0.259	
IA-1e	Stahl Heidelberg folder, model RFH-82	1	PM = 0.259	
IA-1f	Stahl Heidelberg folder, model RFH-66	1	PM = 0.259	
IA-1g	Miehle Vertical die cutter, model V-50	1	PM = 0.259	

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
IA-1h	MM DK cutter, model 7590	1	PM = 0.259	
IA-1i	Perfecta cutter, model 132	1	PM = 0.259	
IA-1j	Perfecta cutter, model 115 TVC	1	PM = 0.259	
IA-1k	Polar cutter, model 137 EMC MON	1	PM = 0.259	
IA-1l	Cyclone Engineering, model 3624, serial number 2085, rated at 90 psi, aluminum oxide, abrasive blast cabinet with bag filter system model DC1500, efficiency of 95%	1	PM 2.96, PM10 = 1.42	
IA-1m	Grafix Powder Star Duo Plus XL corn starch sprayer, model 3961236-AO6	1	PM = 0.43	
IA-1a	Printing Platemaker	1	0.056 VOC	7.25
IA-1b	Gluer/folder	1	1.5 VOC	

ii. **Standards/Operating Limits**

1) **PM/PM10**

(a) Regulation 7.08 establishes particulate matter standards.

2) **VOC**

(a) Regulation 7.25 establishes VOC standards

b. **IA-2 Equipment -** Miscellaneous VOC Emitting Equipment

i. **Equipment**

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
IA-2a	Gammerler compensating stacker trimmer & gluer, model STC-70	1	VOC = 0.0525	7.25
IA-2b	Gammerler gluer, model RS111	1	VOC = 0.0525	
IA-2c	HHS Installation KIT Xmelt gluer, model 45011700	1	VOC = 0.0525	
IA-2d	Accufeed D&K Laminator, model 27-5415	1	VOC = 0.0525	
IA-2f	Kodak platemaker, model MAGNUS 800	1	VOC = 0.0665	

IA-2g	Kodak platemaker, model NE50	1	VOC = 0.0665	

i. **Standards/Operating Limits**

1) **VOC**

(a) Regulation 7.25 establishes VOC standards

c. **IA-3 Equipment** - Parts Washer

i. **Equipment**

Emission Point	Equipment	Quantity	PTE (tpy)	Applicable Regulations
IA-3	Greymills | PL422A | cold solvent Metal Cleaning | pump with cleaning brush | no conveyor | no secondary reservoir	1	VOC = 0.618	6.18

ii. **Standards/Operating Limits**

1) **VOC**

(a) Regulation 6.18 provides for the control of emissions from solvent metal cleaning equipment.

Source-Wide Activities Not Otherwise Regulated

Equipment	Quan.	PTE (tpy)	Regulation Basis
Konica Minolta Bizhub 1200 digital printer, model C364E	1	NA	NA
Kodak Nexpress digital printer, model S-3000	1	NA	NA
Kodak Nexpress digital printer, model SE-2500	1	NA	NA
MCS Inc. Falcon Imager ink-jet printer, model 600 Jet mail III	1	NA	NA
MCS Inc. Array inkjet printer, model V3 9870000-821	1	NA	NA
Maintenance soldering equipment (2), maintenance welding equipment (1)	3	Trivial	EPA White Papers
Maintenance woodworking equipment	1	PM = 0.084	EPA White Papers
Horizon book binder model BQ-270	1	VOC = 0.000185	NA