

STATE OF MISSOURI

PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **112013-010** Project Number: 2013-09-017  
Installation Number: 073-0008

Parent Company: RR Donnelley & Sons Company

Parent Company Address: 111 South Wacker Drive, Chicago, IL 60606

Installation Name: RR Donnelley Owensville Plant

Installation Address: 1005 Commercial Drive, Owensville, MO 65066

Location Information: Gasconade County, S28, T42N, R5W

Application for Authority to Construct was made for:  
the installation of two heatset web offset lithographic printing presses. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- 
- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

**NOV 27** 2013

EFFECTIVE DATE

*Mandy Vit for Kyril L. Moore*

DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2013-09-017

### SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

RR Donnelley Owensville Plant  
Gasconade County, S28, T42N, R5W

1. Superseding Condition
  - A. The conditions of this permit supersede Special Condition 2 found in the previously issued construction (Permit Number 052011-002, Project Number 2011-02-027) issued by the Air Pollution Control Program.
2. VOC and HAPs Emission Limitations
  - A. RR Donnelley Owensville Plant shall emit less than 250.0 tons of VOCs in any consecutive 12-month period from the entire installation in any consecutive 12-month period. The list of emission points at the installation can be found in Table 2.
  - B. RR Donnelley Owensville Plant shall emit less than 10.0 tons individually and 25.0 tons combined of HAPs in any consecutive 12-month period from the entire installation. The list of equipment at the installation can be found in Table 2.
  - C. Attachment A, Attachment B and Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A and 2.B.
3. Shutdown of Equipment
  - A. RR Donnelley Owensville Plant shall remove or render inoperable the heatset web printing press #8 (EP-6) prior to start-up of the new presses.
  - B. The heatset web printing press #8 (EP-6) shall not be operated after the issuance date of this permit without first obtaining a New Source Review permit or receiving approval for the like-kind replacement of other existing equipment at the installation from the Air Pollution Control Program.

Page No.	4
Permit No.	
Project No.	2013-09-017

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

- C. R.R. Donnelley Owensville Plant shall notify the Air Pollution Control Program's Enforcement Section, P. O. Box 176, Jefferson city, MO 65102, no later than 30 days after the issuance of this permit, of the date the heatset web printing press #8 (EP-6) was rendered inoperable.
  
- 4. Record Keeping and Reporting Requirements
  - A. RR Donnelley Owensville Plant shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used
  
  - B. RR Donnelley Owensville Plant shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2013-09-017  
Installation ID Number: 073-0008  
Permit Number:

RR Donnelley Owensville Plant  
1005 Commercial Drive  
Owensville, MO 65066

Complete: September 16, 2013

Parent Company:  
RR Donnelley & Sons Company  
111 South Wacker Drive  
Chicago, IL 60606

Gasconade County, S28, T42N, R5W

REVIEW SUMMARY

- RR Donnelley Owensville Plant has applied for authority to construct two heatset web offset lithographic printing presses.
- HAP emissions are expected from the proposed equipment, but only in small amounts.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR Part 60 Subpart QQ, *Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing*, does not apply to lithographic printing presses.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment. 40 CFR Part 63 Subpart KK, *National Emission Standards for the Printing and Publishing Industry*, does not apply to lithographic printing presses.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are above de minimis levels but are conditioned below major source levels.
- This installation is located in Gasconade County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.
- Emissions testing is not required for the equipment.
- Application for modification of the Part 70 Operating Permit is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

RR Donnelley & Sons Company operates lithographic presses, heatset and nonheatset web presses, and sheet-fed presses used in the production of printed material. The installation is located in Gasconade County. It is considered a minor source for construction permits because the potential emissions of VOC and HAPs are conditioned to below major source levels. The installation is considered a major source for operating permits. The installation last modified its Part 70 Operating Permit in July, 2012. The installation is required to modify its operating permit again within one year after startup of equipment permitted in this project.

The following New Source Review permits have been issued to RR Donnelley & Sons Company from the Air Pollution Control Program.

**Table 1: List of Construction Permits**

Permit Number	Description
0894-016	Installation of three (3) Harris cold-set lithographic web presses, two (2) Harris heat-set lithographic web presses, three (3) Hantcho heat-set lithographic web presses, three (3) Heidelberg sheet-fed presses, and six (6) Diddy Glaser cold-set forms web presses.
0195-007	Installation of six (6) Heidelberg sheet-fed printing presses.
0995-011	Amendment to the existing permits 0894-016 and 0195-017 to increase production and add new equipment.
0797-013	Addition of one (1) heat-set lithographic web press and propane fire dryer.
0797-024	Addition of one (1) heat-set lithographic web press.
072000-013	Addition of a 4-unit Harris heat-set lithographic web press and two (2) propane fired dryers.
092001-019	Addition of two (2) Heidelberg sheetfed presses with UV coaters and a Creo Platemaker.
022005-008	Addition of a web press.
012006-013	Addition of three (3) new heat-set presses.
072006-004	Installation of four (4) coldest sheetfed offset presses.
022008-002	Installation of two (2) heatset web offset lithographic printing presses and one nonheatset sheetfed press.
052011-002	Installation of three (3) heatset web offset lithographic printing presses.*

\* Only two of the three presses permitted by Permit Number 052011-002 were installed.

No NOEE/NOV's that apply to this project have been issued in the last five years.

## PROJECT DESCRIPTION

R. R. Donnelley & Sons Company proposes to install two new heatset web-offset lithographic printing presses (Press EP-41 and Press EP-42). Press EP-41 uses a maximum of 2.67 gallons per hour of ink, and Press EP-42 uses twice that, a maximum of 5.34 gallons per hour of ink. Press EP-41 uses two natural gas dryers, each rated at 2.2 MMBtu/hr, and Press EP-42 uses one natural gas dryer rated at 7.3 MMBtu/hr. There are no control devices on the equipment. The previous permit issued to the installation (Number 052011-002) allowed for the construction of three printing presses, but only two were installed. Furthermore, Press EP-6 will be removed from the site. It should also be noted that heatset web press EP24 was accidentally omitted from the list of equipment in the previous permit, although the installation continued to track and report its emissions.

This permit supersedes and re-establishes Special Condition 2 of the previous permit so that it covers the modified list of equipment. It separates record keeping and reporting requirements from that special condition into a separate condition. It adds an additional special condition requiring shutdown of Press-EP-6.

The following table gives a listing of all emission units that will be at the site after press EP-6 has been removed and equipment from this permit has been installed.

**Table 2: List of Emission Points After this Project**

<b>Emission Point (Press Number)</b>	<b>Description</b>	<b>Press MHDR (tons of ink/hr)</b>	<b>Dryer MHDR</b>
EP7 (P207)	Heatset Web Press with Natural Gas/LPG Dryer (6-unit Harris)	0.00383	0.0042mmcf/hr NG (0.0323 Mgal/hr LPG)
EP15	Natural Gas/LPG Boiler	N/A	0.0018 mmcf/hr NG (0.02Mgal/hr LPG)
EP16	Natural Gas/LPG Boiler	N/A	0.0018 mmcf/hr NG (0.02Mgal/hr LPG)
EP17	Cleanup Chemicals (All Presses)	0.00339 (Mgal/hr)	N/A
EP18	Pre-Press Chemicals	0.00448 (Mgal/hr)	N/A
EP19	Plant Wide Chemicals	0.00036 (Mgal/hr)	N/A
EP24 (P202)	Heatset Web Press with Natural Gas/LPG Dryer (Harris 4-unit)	0.00383	0.0042 mmcf/hr NG (0.0323 Mgal/hr LPG)
EP25	UV Sheetfed Press (Heidelberg)	0.00166	N/A
EP26	UV Sheetfed Press (Heidelberg)	0.00166	N/A
EP27 (P203)	Heatset Web Press (1-Unit Timsons)	0.00448	6.00 MMBtu/hr
EP28 (P201)	Heatset Web Press (8-Unit Hantcho)	0.0053	7.32 MMBtu/hr
EP29 (P204)	Heatset Web Press (10-Unit Hantcho)	0.0053	7.22 MMBtu/hr
EP38 (P205)	Heatset Web Offset Lithographic Press (4-unit Harris)	0.00267 (Mgal/hr)	2.2 (MMBtu/hr, each of 2 dyers)
EP39 (P206)	Heatset Web Offset Lithographic Press (4-unit Harris)	0.00267 (Mgal/hr)	2.2 (MMBtu/hr, each of 2 dyers)
EP41 (P208)	Heatset Web Offset Lithographic Press (4-unit) – New this permit	0.00267 (Mgal/hr)	2.2 (MMBtu/hr, each of 2 dyers)
EP-42 (P209)	Heatset Web Offset Lithographic Press (8-unit) – New this permit	0.00534 (Mgal/hr)	7.3 MMBtu/hr

N/A – Not Applicable

## EMISSIONS/CONTROLS EVALUATION

The main pollutants from this project are the VOCs from the printing presses. These potential VOC emissions were calculated by assuming that 80% of the VOC in the inks, 100% of the VOC in the fountain solutions and 50% of the VOC in the cleaning solvents is emitted. The ink emission percentage was taken from an April 27, 2005 memorandum from the Director of the Air Pollution Control Program on the method for calculating VOC emissions from lithographic printing presses. The fountain solution and cleaning solvent emission percentages were taken from EPA guidance document *Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing (EPA 453/R-06-002, September 2006)*. In order to use the 50% evaporation percentage for the cleaning solutions, the installation must store the shop towels in closed containers.

There will also be emissions from the natural gas dryers for the presses. The pollutants emitted from the dryers are PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>x</sub>, NO<sub>x</sub>, CO, VOCs, HAPs and greenhouse gases. These emissions were calculated using emission factors from EPA document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Chapter 1.4, *Natural Gas Combustion*, (July, 1998).

Since only two of the three presses permitted in the last construction permit were actually installed, and since greenhouse gas emissions were not calculated in that permit, existing potential emissions of the installation were recalculated. This recalculation took into account the limits in previous permits which kept the installation from becoming a major source for VOCs or HAPs. Existing actual emissions were taken from the 2012 Emissions Inventory Questionnaire (EIQ). Potential emissions of the application were calculated assuming continuous operation (8,760 hours per year). The new installation conditioned potentials account for the VOC and HAP limits which prevent the facility from becoming a major source. No control devices will be used to control emissions. The following table provides an emissions summary for this project.

**Table 3: Emissions Summary (tons per year)**

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2012 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>2.5</sub> *	10.0	1.71	0.20	0.38	2.09
PM <sub>10</sub> *	15.0	1.71	0.20	0.38	2.09
SO <sub>x</sub>	40.0	0.12	0.02	0.03	0.15
NO <sub>x</sub>	40.0	24.53	2.62	5.02	29.55
VOC	40.0	<250	141.21	102.82	<250
CO	100.0	18.68	2.20	4.22	22.90
HAPs	10.0/25.0	<10.0/25.0	0.001	0.34	<10.0/25.0
GHG <sub>Mass</sub>	100	27,747	N/D	6,030	33,777
GHG <sub>CO2eq</sub>	100,000	27,926	N/D	6,374	34,300

N/A = Not Applicable N/D = Not Determined

\* To be conservative, PM<sub>2.5</sub> was assumed to equal PM<sub>10</sub>.

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10 6.060, *Construction Permits Required*. Potential emissions of VOCs are above de minimis levels but conditioned below major source levels.

## APPLICABLE REQUIREMENTS

RR Donnelley Owensville Plant shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### SPECIFIC REQUIREMENTS

- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405 applies to the new dryers, but they are deemed always in compliance because they burn natural gas.

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Cheryl Steffan  
New Source Review Unit

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 9, 2013, received September 10, 2013, designating RR Donnelley & Sons Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

## Attachment A – Annual VOC Compliance Worksheet

RR Donnelley Owensville Plant  
 Gasconade County (S28, T42N, R5W)  
 Project Number: 2013-09-017  
 Installation ID Number: 073-0008  
 Permit Number: \_\_\_\_\_

This sheet covers the month of \_\_\_\_\_ .  
 (month, year)

Column 1	Column 2 (a)	Column 3	Column 4	Column 5
Material Used (Name)	Amount of Material Used (Include Units)	Density (lbs/gal)	VOC Content (Weight %)	VOC Emissions (Tons)
(b) Total VOC Emissions from Chemicals Calculated for This Month in Tons:				
(c) Total VOC Emissions from Chemicals for the Previous 11 Months in Tons:				
(d) Current 12-Month Total of VOC Emissions from Chemicals in Tons:				
		Natural Gas Usage (mmcf)	Emission Factor (lbs/mmcf)	(e) Emissions (lbs)
			5.5	
(f) Total VOC Emissions from Natural Gas for This Month in Tons:				
(g) Total VOC Emissions from Natural Gas for the Previous 11 Months in Tons:				
(h) Current 12-Month Total of VOC Emissions from Natural Gas Combustion in Tons:				
(i) Current 12-Month Total of VOC Emissions from the Installation in Tons:				

Instructions: Choose appropriate VOC calculation method for units reported:

- (a) 1) If usage is in tons - [Column 2] x [Column 4] = [Column 5];
- 2) If usage is in pounds - [Column 2] x [Column 4] x [0.0005] = [Column 5];
- 3) If usage is in gallons - [Column 2] x [Column 3] x [Column 4] x [0.0005] = [Column 5];
- (b) Sum of [Column 5] in Tons
- (c) Sum of (b) from Attachment A forms for the previous 11 months
- (d) Sum of (b) and (c)
- (e) Emissions calculated by [Column 2] x [Column 3]
- (f) Calculated by (e)[Column 4] ÷ 2,000 lbs/ton
- (g) Sum of (f) from Attachment A forms for the previous 11 months
- (h) Sum of (f) and (g)
- (i) Sum of (d) and (h)

**A 12-Month VOC emissions total (i) of less than 250.0 tons indicates compliance.**







## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ....	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ...	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	
<b>CFR</b> .....	Code of Federal Regulations	.....	National Emissions Standards for Hazardous Air Pollutants
<b>CO</b> .....	carbon monoxide	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>NSR</b> .....	New Source Review
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM</b> .....	particulate matter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>ppm</b> .....	parts per million
<b>EP</b> .....	Emission Point	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EPA</b> .....	Environmental Protection Agency	<b>PTE</b> .....	potential to emit
<b>EU</b> .....	Emission Unit	<b>RACT</b> .....	Reasonable Available Control Technology
<b>fps</b> .....	feet per second	<b>RAL</b> .....	Risk Assessment Level
<b>ft</b> .....	feet	<b>SCC</b> .....	Source Classification Code
<b>GACT</b> .....	Generally Available Control Technology	<b>scfm</b> .....	standard cubic feet per minute
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

## Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-86-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAMBEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6		Y	N	CHLORINE	7782-50-5	0.1	N	N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
ACRYLONITRILE	107-13-1	0.3		Y	N	CHLOROACETIC ACID	79-11-8	0.1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIHENYL, [4-]	92-67-1	1	V	Y	N	CHLOROBENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLOROBENZILATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	M	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		2E-05	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Delisted)	105-60-2					DICHLOROMETHANE	75-09-2	10		N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

## Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-6	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N	Legend					
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N	Group ID	Aggregate Group Name				
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYCLIC ORGANIC MATTER		0.01	V	Y	N	A	Asbestos				
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y	B	Cresols/Cresylic Acid (isomers and mixtures)				
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N	C	2,4 - D, Salts and Esters				
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N	D	Dibenzofurans, Dibenzodioxins				
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y	E	4, 6 Dinitro-o-cresol, and Salts				
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-56-9	5		Y	N	F	Lindane (all isomers)				
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N	G	Xylenes (all isomers and mixtures)				
METHYL HYDRAZINE	60-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N	H	Antimony Compounds				
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	106-51-4	5		Y	N	I	Arsenic Compounds				
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y	J	Beryllium Compounds				
METHYL ISOCYANATE	624-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y	K	Cadmium Compounds				
METHYL METHACRYLATE	80-62-6	10		Y	N	STYRENE	100-42-5	1		Y	N	L	Chromium Compounds				
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	STYRENE OXIDE	96-09-3	1		Y	N	M	Cobalt Compounds				
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y	N	Coke Oven Emissions				
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N	O	Cyanide Compounds				
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N	P	Glycol Ethers				
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N	Q	Lead Compounds (except elemental Lead)				
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N	R	Manganese Compounds				
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N	S	Mercury Compounds				
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N	T	Fine Mineral Fibers				
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N	U	Nickel Compounds				
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROETHANE, [1,2,4-]	120-82-1	10		Y	N	V	Polycyclic Organic Matter				
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N	W	Selenium Compounds				
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N	X	Polychlorinated Biphenyls (Aroclors)				
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N	Y	Radionuclides				
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRITHYLAMINE	121-44-8	10		Y	N	Note 1	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million				
NITROPROPANE, [2-]	79-46-9	1		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y						

Mr. Mark Swisher  
Senior VP - Manufacturing  
RR Donnelley Owensville Plant  
1005 Commercial Drive  
Owensville, MO 65066

RE: New Source Review Permit - Project Number: 2013-09-017

Dear Mr. Swisher:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Cheryl Steffan, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:csl

Enclosures

c: St. Louis Regional Office  
PAMS File: 2013-09-017

Permit Number: