

PERMIT BOOK

STATE OF MISSOURI



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: 052011-002 Project Number: 2011-02-027

Parent Company: R.R. Donnelley & Sons Company

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

Installation Name: R.R. Donnelley Owensville Plant

Installation Address: 1005 Commercial Drive, Owensville, MO 65066

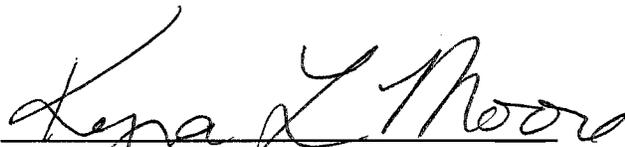
Location Information: Gasconade County, (S28, T42N, R5W)

Application for Authority to Construct was made for the installation of three web offset heatset 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.

MAY 05 2011

EFFECTIVE DATE


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 this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located with 15 days after the actual start up of this (these) air contaminant source(s).

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 source(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.	2011-02-027

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."

R.R. Donnelley Owensville Plant
Gasconade County (S28, T42N, R5W)

1. **Superseding Condition**
The conditions of this permit supersede Special Conditions 2, 3 and 4, found in the previously issued construction permit (Permit Number 022008-002, Project Number 2007-11-004) from the Air Pollution Control Program.
2. **Emission Limitations**
 - A. R. R. Donnelley Owensville Plant shall emit less than 250.0 tons of Volatile Organic Compounds (VOCs) from the entire installation in any consecutive 12-month period. The list of equipment at the installation can be found in Table 2 on page 7.
 - B. R.R. Donnelley Owensville Plant shall emit less than ten (10.0) tons individually and twenty-five (25.0) tons combined of Hazardous Air Pollutants (HAPs) from the installation in any consecutive 12-month period. The list of equipment at the installation can be found in Table 2 on page 7.
 - C. Attachments A, B and C, or equivalent forms, shall be used to demonstrate compliance with Special Conditions 2.A. and 2.B. R.R. Donnelley Owensville Plant shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used at the installation.
 - D. R.R. Donnelley Owensville Plant shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 2.C. indicate that the source exceeds the limits of Special Conditions 2.A. and 2.B.

Page No.	4
Permit No.	
Project No.	2011-02-027

SPECIAL CONDITIONS:

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

3. R.R. Donnelley Owensville Plant shall keep the ink solvents and cleaning solutions in sealed containers whenever the materials are not in use. The shop towels used for the cleaning solutions shall be kept in closed containers. R.R. Donnelley Owensville Plant shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.

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

Project Number: 2011-02-027
Installation ID Number: 073-0008
Permit Number:

R.R. Donnelley Owensville Plant
1005 Commercial Drive
Owensville, MO 65066

Complete: February 17, 2011

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

Gasconade County (S28, T42N, R5W)

REVIEW SUMMARY

- R.R. Donnelley Owensville Plant has applied for authority to construct three web offset heatset lithographic printing presses.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment but only in negligible amounts.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment. 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 National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulations applies to this installation.
- None of the Maximum Achievable Control Technology (MACT) standards apply to the installation. 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*. Conditioned potential emissions of VOCs are above *de minimis* levels but below major source levels.
- This installation is located in Gasconade County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- 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.
- A modification to the installation's Part 70 Operating Permit Application is required within one year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

R.R. 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 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 received a Part 70 Operating Permit in February, 2010. The installation is required to modify its Part 70 Operating Permit within one year after startup of equipment permitted in this project.

The following permits have been issued to R.R. Donnelley Owensville Plant from the Air Pollution Control Program.

Table 1: List of Construction Permits

Permit Number	Description
0894-016	Installation of three (3) cold-set Harris lithographic web presses, two (2) heat-set Harris lithographic web presses, three (3) heat-set Hantcho lithographic web presses, three (3) Heidelberg sheet-fed presses, and six (6) Didde 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 dryer.
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) sheetfed, coldset offset presses.
022008-002	Installation of two web offset heatset lithographic printing presses and one nonheatset sheetfed press.

PROJECT DESCRIPTION

R. R. Donnelley & Sons Company proposes to install three identical new heatset web-offset lithographic printing presses (Press #12 (EP-30), Press #14 (EP-35) and Press #2 (EP-40)). Each press uses a maximum of 2.67 gallons per hour of ink. Two natural gas dryers, each rated at 2.2 MMBtu/hr, are used for each press. The previous permit issued to the installation (No. 022008-002) allowed for the construction of two web offset heatset lithographic printing presses and one nonheatset sheetfed press. Due to economic factors, none of these presses were installed. Furthermore, Press No. 6 (EP-08) has been removed from the site.

The following table gives a listing of all emission units that will be at the site once equipment from this permit has been installed.

Table 2: List of Emission Points After Equipment from this Project Has Been Installed

Emission Point (Press No)	Description	MHDR (tons of ink/hr)	Dryer MHDR (mmcf/hr of Natural Gas)
EP6 (P8)	Heatset Web Press with Nat. Gas/LPG Dryer (4-unit Hantcho)	0.00383	0.0042 (0.0323 Mgal/hr LPG)
EP7 (P7)	Heatset Web Press with Natural Gas/LPG Dryer (6-Unit Harris)	0.00383	0.0042 (0.0323 Mgal/hr LPG)
EP15 (N/A)	Natural Gas/LPG Boiler	N/A	0.0018 (0.02Mgal/hr LPG)
EP16 (N/A)	Natural Gas/LPG Boiler	N/A	0.0018 (0.02Mgal/hr LPG)
EP17 (N/A)	Cleanup Chemicals (All Presses)	0.00339 (Mgal/hr)	N/A
EP18 (N/A)	Pre-Press Chemicals	0.00448 (Mgal/hr)	N/A
EP19 (N/A)	Plant Wide Chemicals	0.00036 (Mgal/hr)	N/A
EP25	UV Sheetfed Heidelberg Press	0.00166	N/A
EP26	UV Sheetfed Heidelberg Press	0.00166	N/A
EP27 (P3)	Heatset Web Press (1-Unit Timsons)	0.00448	N/A
EP28 (P1)	Heatset Web Press (8-Unit Hantcho)	0.0053	N/A
EP29 (P4)	Heatset Web Press (10-Unit Hantcho)	0.0053	N/A
EP38 (P12)	Web Offest Heatset Lithographic Press	0.00267 (Mgal/hr)	2.2 (MMbtu/hr, each of 2 dyers)
EP39 (P14)	Web Offest Heatset Lithographic Press	0.00267 (Mgal/hr)	2.2 (MMbtu/hr, each of 2 dyers)
EP40 (P2)	Web Offest Heatset Lithographic Press	0.00267 (Mgal/hr)	2.2 (MMbtu/hr, each of 2 dyers)

N/A – Not Applicable

EMISSIONS/CONTROLS EVALUATION

The main pollutants from this project are the VOCs from the operation of the printing presses. The potential VOC emissions from the presses were obtained by calculating VOC content from the ink, fountain solutions and cleaning solvents and assuming that 80% of the VOC from the ink, 100% of the VOC from the fountain solutions and 50% of the VOC in the cleaning solvents are emitted. The ink VOC emission percentage was taken from an April 27, 2005 memorandum issued by the Director of the Air Pollution

Control Program regarding the method that should be used in 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 operation of the natural gas dryers for each press. Each dryer is rated at 2.2 MMbtu/hr. The pollutants emitted from the dryers are particulate matter less than two and a half microns in diameter (PM_{2.5}), particulate matter less than ten microns in diameter (PM₁₀), Sulfur Oxides (SO_x), Nitrogen Oxides (NO_x), Carbon Monoxides (CO), VOCs and HAPs. The emissions from the dryers 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 much equipment has been removed from the site after they were permitted, the existing potential emissions for the criteria pollutants of the installation were recalculated for this project instead of using the emissions calculations from previous projects. The existing potential emissions of HAPs are based on limits in previous permits to keep the installation from becoming a major source for HAPs. Existing actual emissions were taken from the 2010 Emissions Inventory Questionnaire (EIQ). Potential emissions of the application were calculated assuming continuous operation (8,760 hours per year). The new installation conditioned potentials were based on limits to 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 (2010EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	1.13	0.12	0.43	N/A
PM ₁₀	15.0	1.13	0.12	0.43	N/A
SO _x	40.0	0.09	0.01	0.034	N/A
NO _x	40.0	20.13	1.62	5.67	N/A
VOC	40.0	161.99	126.36	103.64	<250
CO	100.0	12.59	1.36	4.76	N/A
HAPs	10.0/25.0	<10.0/25.0	0.01	0.15	<10.0/25.0

N/A = Not Applicable

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 below major source levels.

APPLICABLE REQUIREMENTS

R.R. 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*
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an EIQ is required by April 1st, if submitting a hardcopy and by May 1st, if submitting online at www.dnr.mo.gov/moeis/main/login, for the previous years' emissions. Payment is due June 1st.
- *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

- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-3.060*

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.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 17, 2011, received February 19, 2011, designating R. R. 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.
- St. Louis Regional Office Site Survey, dated February 24, 2011.
- Material Safety Data Sheets (MSDS) for Ink, fountain, and cleaning solutions supplied by R.R. Donnelley & Sons Company.

Attachment A – Annual VOC Compliance Worksheet

R.R. Donnelley Owensville Plant
 Gasconade County (S28, T42N, R5W)
 Project Number: 2011-02-027
 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 the Attachment A of 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 the Attachment A of 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.

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

RE: New Source Review Permit - Project Number: 2011-02-027

Dear Mr. Swisher:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 operating permit, once it is amended, 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 Chia-Wei Young at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573)751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:cyk

Enclosures

c: St. Louis Regional Office
PAMS File 2011-02-027

Permit Number: