

# 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: **022008-002** Project Number: 2007-11-004

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 two (2) heatset web-offset lithographic printing presses and one (1) nonheatset sheetfed press. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

FEB 4 2008

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.

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

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Location Information: Gasconade County, S28, T42N, R5W

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

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EFFECTIVE DATE

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DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

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**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).

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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.

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Permit No.	
Project No.	2007-11-004

### 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 condition #2 found in the previously issued construction permit (Permit Number 072006-004) from the Air Pollution Control Program.
2. **Emission Limitation**
  - A. R.R. Donnelley Owensville Plant shall emit less than 250 tons of Volatile Organic Compounds (VOCs) from the installation in any consecutive 12-month period.
  - B. R.R. Donnelley Owensville Plant shall emit less than ten (10) tons individually and twenty-five (25) tons combined of Hazardous Air Pollutants (HAPs) from the installation in any consecutive 12-month period.
  - C. Attachment A, Attachment B and Attachment 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 Number 2.C. indicate that the source exceeds the limitation of Special Conditions Number 2.A. and 2.B.
3. **Shutdown of Equipment**
  - A. R.R. Donnelley Owensville Plant shall render inoperable the heatset web-offset lithographic printing press #6 (EP-08) prior to start-up of the new presses.

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**SPECIAL CONDITIONS:**

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

- B. The heatset web-offset lithographic printing press #6 (EP-08) and the nonheatset sheetfed press #13 (EP-31, already removed from the site) 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.
- 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 on the date the heatset web-offset lithographic printing press #6 (EP-08) was rendered inoperable.
- 4. 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: 2007-11-004  
Installation ID Number: 073-0008  
Permit Number:

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

Complete: 11/02/2007

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 two (2) heatset web-offset lithographic printing presses and one (1) nonheatset sheetfed press.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment.
- 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 installations using lithographic printing techniques.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulations applies to this installation.
- None of the Maximum Achievable Control Technology (MACT) standard, listed in 40 CFR Part 63, apply to the installation. 40 CFR Part 63, Subpart KK, *National Emission Standards for the Printing and Publishing Industry*, does not apply to the installation because the HAPs emissions from the installation are conditioned to below major source levels.
- 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 1 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 submitted a part 70 operating permit application in 2006. After the installation begins operation of the new equipment, the installation will have one (1) year to submit a modification to its part 70 operating permit application.

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.

## PROJECT DESCRIPTION

R. R. Donnelley & Sons Company proposes to install two (2) new heatset web-offset lithographic printing presses (Press #12, EP-36, and Press #14, EP-35) and one (1) new nonheatset sheetfed press (Press #16, EP-37). As part of this project, an existing heatset web-offset lithographic printing press (Press #6, EP-08) will also be removed.

Permit #012006-013 was issued to the installation in January, 2006, for the addition of three (3) heatset web-offset lithographic printing presses. Only two (2) of the three (3) presses were installed. Press #12 (EP-36) from this project will take place of the press that was not installed. Also, Permit #072006-004 was issued to the installation in July, 2006 for the addition of four (4) nonheatset sheetfed press. Only one of the presses (Press #13, EP-31) was installed. Press #16 (EP-37) from this project will take place of one of the presses that was not installed. Press #13 (EP-31) has also been permanently 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**

<b>Emission Point (Press No)</b>	<b>Description</b>	<b>MHDR (tons of ink/hr)</b>	<b>Dryer MHDR (mmcf/hr of Natural Gas)</b>
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
EP24 (P2)	Heatset Web Press with Natural Gas/LPG Dryer (4-Unit Harris)	0.00383	0.0042 (0.0323 Mgal/hr LPG)
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
EP35 (P14)	New Heatset web-offset Lithographic Printing Press with 2 Natural Gas Dryers	0.00267 (Mgal/hr)	2.2 (for each of 2 dryers)
EP36 (P12)	New Heatset web-offset Lithographic Printing Press with 2 Natural Gas Dryers	0.00267 (Mgal/hr)	2.2 (for each of 2 dryers)
EP37 (P16)	Nonheatset Sheetfed Press	0.00088 (Mgal/hr)	N/A

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 determining the amount of VOCs in the inks, fountain solutions, and the cleaning solvents used and assuming that certain percentages of these VOCs are emitted from each type of chemicals. The amount of VOCs in the inks, fountain solutions, and the cleaning solvents were calculated by using the maximum hourly usage and the VOC content given in the Material Safety Data Sheets (MSDS). Since multiple inks are used in each press, the ink with the highest VOC content was used for worst-case analysis. For the heatset press, it was assumed that 80% of the VOCs in the ink are emitted. For the nonheatset press, it was assumed that only 5% of VOCs are emitted. These numbers were 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. For the fountain solutions, it was assumed that 100% of all VOCs evaporate and for the cleaning solvents, it was assumed that 50% of all the VOCs evaporate. These numbers 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 two (2) dryers for Press #12 (EP-36) and the two (2) dryers for Press #14 (EP-35). Each dryer is rated 2.2 mmBTU/hr and will burn natural gas. The pollutants emitted from the dryers are particulate matter less than ten microns in diameter ( $PM_{10}$ ), 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 the installation will no longer be using Press #6 (EP-08) and Press #13 (EP-31), the existing potential emissions of the installation were recalculated by eliminating emissions from these sources. Furthermore, since Press #12 (EP-36) and Press #16 (EP-37) replaces equipment previously permitted, the emissions from these presses were not counted in the existing potential emissions but counted in the potential emissions of this application. Potential emissions of the application were calculated assuming continuous operation (8760 hours per year). 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 (2006EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	1.14	0.11	0.28	N/A
SO <sub>x</sub>	40.0	0.09	0.01	0.022	N/A
NO <sub>x</sub>	40.0	10.13	1.15	3.78	N/A
VOC	40.0	188.15	96.46	79.55	<250
CO	100.0	12.59	1.27	3.18	N/A
HAPs	10.0/25.0	10.0/25.0	0.10	0.31	<10.0/25.0

N/A = Not Applicable

\*Existing potential emissions were recalculated by eliminating emissions from equipment that has been removed.

### 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 Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *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 10-3.090

## 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.

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Chia-Wei Young  
Environmental Engineer

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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 11/1/2007, received 11/2/2007, 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 11/8/2007.
- Material Safety Data Sheets (MSDS) for Ink, fountain, and cleaning solutions supplied by R.R. Donnelley & Sons Company.







(e) Record the monthly HAP emission total (c) from previous year's Attachment C, in Tons. Calculate the new 12-month individual HAP emissions total. **A 12-Month individual HAP emissions total of less than ten (10.0) tons from the entire installation 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: 2007-11-004

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 (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:cwyl

Enclosures

c: St. Louis Regional Office  
PAMS File 2007-11-004

Permit Number: