



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: 122010-003 Project Number: 2010-08-063

Parent Company: Rock-Tenn Company

Parent Company Address: 504 Thrasher Street, Norcross, GA 30071

Installation Name: Rock-Tenn Packaging and Paperboard, LLC

Installation Number: 145-0036

Installation Address: 4200 East 32nd Street, Joplin, MO 64804

Location Information: Newton County, S27, T20N, R9W

Application for Authority to Construct was made for:

The addition of a Komori web, offset lithographic press with a maximum hourly design rate of 9.92 gallons of coatings per hour that is able to work as a heatset and non-heatset printing press. This review was conducted in accordance with Section (5), 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.

DEC - 2 2010

EFFECTIVE DATE

Signature for Jtk 11/19/2010

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 Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). 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 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.

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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."

Rock-Tenn Packaging and Paperboard, LLC
Newton County, S27, T20N, R9W

1. Emission Limitation
 - A. Rock-Tenn Packaging and Paperboard, LLC shall emit less than 40.0 tons of Volatile Organic Compounds (VOCs) from the Komori Web Press (emission point WP-8) in any consecutive 12-month period.
 - B. Attachment A, or an equivalent form such as an electronic form, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Operational Requirement
Rock-Tenn Packaging and Paperboard, LLC shall keep the inks, solvents and cleaning solutions in sealed containers whenever the materials are not in use. Rock-Tenn Packaging and Paperboard, LLC shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.
3. Record Keeping and Reporting Requirements
 - A. Rock-Tenn Packaging and Paperboard, LLC 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
 - B. Rock-Tenn Packaging and Paperboard, LLC shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten 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.
4. Operating Permit Determination
Rock-Tenn Packaging and Paperboard, LLC shall include potential to emit (PTE) calculations for all pollutants at the installation as supporting documentation with their next operating permit application or renewal.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2010-08-063
Installation ID Number: 145-0036
Permit Number:

Rock-Tenn Packaging and Paperboard, LLC
4200 East 32nd Street
Joplin, MO 64804

Complete: September 9, 2010

Parent Company:
Rock-Tenn Company
504 Thrasher Street
Norcross, GA 30071

Newton County, S27, T20N, R9W

REVIEW SUMMARY

- Rock-Tenn Packaging and Paperboard, LLC has applied for authority to add a Komori web, offset lithographic press with a maximum hourly design rate of 9.92 gallons of coatings per hour that is able to work as a heatset and non-heatset printing press.
- The following Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment from this project: hydroquinone (CAS # 123-31-9), diethylene glycol monobutyl ether acetate (CAS # 124-17-4), xylene (CAS # 1330-20-7), ethylene glycol (CAS # 107-21-1), diethylene glycol monobutyl ether (CAS # 112-34-5) and cumene (CAS # 98-82-8). Some of the inks used contain manganese and cobalt compounds, but these compounds are expected to be retained in the paperboard and produce negligible emissions. The other HAP emissions are not expected to exceed their respective Screen Model Action Level (SMAL) and the de minimis level for the combined HAPs.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. 40 CFR Part 63 Subpart KK, *National Emission Standards for the Printing and Publishing Industry*, and Subpart JJJJ, *National Emissions Standards for Hazardous Air Pollutants : Paper and Other Web Coating*, both do not apply since the installation is not a major source of HAP emissions.
- This facility will not be using air pollution control equipment in association with the new equipment.

- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of volatile organic compounds (VOCs) for this project are limited below de minimis levels.
- This installation is located in Newton 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 since potential emissions of the application are limited below de minimis levels.
- Emissions testing is not required for the equipment.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Rock-Tenn manufactures folding cartons and prints paperboard at their Joplin facility. This installation currently has three printing presses in operation: a Komori web press (Permit No. 0796-020) and two Man Roland sheetfed presses (Permits No. 0897-015 and Permit No. 0799-016). An electric dryer is used to dry the wet ink on the paperboard. The facility's Operating Permit was reclassified from a Part 70 to a Basic Operating Permit on March 6, 2003. However, the total potential emissions of the facility are not clearly defined. Therefore, the Air Pollution Control Program request Rock-Tenn Packaging and Paperboard, LLC calculate the new installation-wide PTE calculations and use this as supporting documentation with their next operating permit application or renewal. The following permits have been issued to Rock-Tenn Packaging and Paperboard, LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0590-005	Folding food cartoon manufacturing
0692-007	A web fed offset press
0294-005	Two Lemanic 1150 natural gas dryer units and two gravure units in line with the new Bobst Lemanic 1150 cutter
0796-020	Komori Web press
0897-015	MAN Roland 900 Sheetfed
0799-016	MAN Roland 900 Sheetfed
042000-015	2.4 MMBtu/hr natural gas dryer and flexographic printing
0799-016A	Ozone emissions and press venting

PROJECT DESCRIPTION

Rock-Tenn Packaging and Paperboard, LLC has applied for authority to utilize a Komori web, offset lithographic press. This printing press was installed without a permit and is currently installed and operating. This printing press has a maximum hourly design rate of 9.92 gallons of total coatings per hour that is able to work as a heatset and non-heatset printing press. These coatings consist of inks, blanket wash, sealants, additives and cleaners. The potential emissions of this printing press are based on its use as a heatset printing press because this is the worst case scenario. However, this printing press is mostly being used as a non-heatset printing press.

A summary of coatings used during each type of operation is listed in Table 2. As a heatset printing press, it will emit more VOC and HAP emissions compared to its non-heatset printing press option. An electric dryer is used to dry the wet ink on the paperboard.

Table 2: List of Coatings

COATINGS	HEATSET MHDRs	NON HEATSET MHDRs
Inks	5.47 gal/hr	5.120 gal/hr
Blanket Wash	0.09 gal/hr	0.094 gal/hr
Flush	0.002 gal/hr	0.002 gal/hr
Drier Blend	0.02 gal/hr	0.02 gal/hr
Extender	n/a	0.020 gal/hr
Isopropyl Alcohol	0.03 gal/hr	0.026 gal/hr
Storage Gum	0.004 gal/hr	0.004 gal/hr
Plate Cleaner	0.05 gal/hr	0.052 gal/hr
Eezy Kklene	0.0002 gal/hr	0.0002 gal/hr
Fountain Solution	0.04 gal/hr	0.042 gal/hr
Varnish	n/a	3.728 gal/hr
Aquakote	4.21 gal/hr	n/a
Total Coatings	9.92 gal/hr	9.109 gal/hr

EMISSIONS/CONTROLS EVALUATION

Potential emissions were estimated using data from Material Safety Data Sheet (MSDS) and actual product usages supplied by Rock-Tenn Company. The actual product usages of March 2010 were used to develop a maximum hourly design rate (MHDR) of the equipment. These actual emissions represent the highest product use of a twelve month period and were divided by actual hours of operation during that month. Rock-Tenn Company chose to use a 20 percent safety factor to apply to the MHDR. The potential emissions of this new press were scaled up from the actual emissions to show continuous operation (8760 hours per year) as a heatset printing press. The existing actual emissions were taken from the previous year's Emissions Inventory Questionnaire (EIQ).

Emissions of VOC in printing operations result from the evaporation of solvents in the ink and the solutions used to clean the presses. VOCs and HAPs are the major pollutants of concern for printing operations. Some of the inks that are proposed to be used contain manganese and cobalt compounds. These compounds are considered to be particulate (PM) HAPs. Because this printing press transfers the inks by contact, PM₁₀ and PM HAPs emissions are considered negligible. According to a memorandum issued by the Director of the Air Pollution Control Program on April 27, 2005, 20% of the ink is retained on the paperboard for heatset offset lithographic printers. This results in 80% of the VOC in the inks being emitted. According to the same memorandum, during the operation of non-heatset offset lithographic presses, 95% of the ink solvent is retained on the paperboard. The potential emission of this project reflects emissions as a heatset printing press because more VOC and HAP emissions are produced during this operation. The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	De Minimis Level/ SMAL	¹ Existing Potential Emissions	Existing Actual Emissions (2009 EIQ)	Potential Emissions of the Project	Project Conditioned Potential
PM ₁₀	15.0	N/D	3.21	N/A	N/A
SO _x	40.0	N/D	N/D	N/A	N/A
NO _x	40.0	N/D	N/D	N/A	N/A
VOC	40.0	N/D	16.57	50.19	< 40.0
CO	100.0	N/D	N/D	N/A	N/A
HAPs	10.0/25.0	N/D	N/D	6.43	N/A
Hydroquinone	² 1.0	N/D	N/D	0.62	N/A
Diethylene Glycol Monobutyl Ether Acetate	² 5.0	N/D	N/D	2.70	N/A
Xylene	² 10.0	N/D	N/D	0.02	N/A
Ethylene Glycol	² 10.0	N/D	N/D	0.20	N/A
Diethylene Glycol Monobutyl Ether	² 5.0	N/D	N/D	0.20	N/A
Cumene	² 10.0	N/D	N/D	0.10	N/A

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

¹ Due to permit and equipment changes, it is not clear of this installation's existing potential emissions. Therefore, Rock-Tenn Packaging and Paperboard, LLC shall include PTE calculations for all pollutants at the installation as supporting documentation to their next operating permit application or renewal.

² Screening Model Action Level (SMAL)

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are limited below the 40.0 ton per year de minimis level.

APPLICABLE REQUIREMENTS

Rock-Tenn Packaging and Paperboard, LLC 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 on April 1 for paper submittals or May 1 for MOEIS submittals 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

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Daronn Williams
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 1, 2010, received September 2, 2010, designating Rock-Tenn Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated September 28, 2010.
- Material Safety Data Sheets (MSDS) from the chemicals' manufacturers.

