

NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review including RACT Requirements
(in conformance with Section 172(c) of the CAA)

Permit Issue Date: **XX XX, 2010**

Region: Mooresville Regional Office
County: Union
NC Facility ID: 9000117
Inspector's Name: Melinda Wolannin
Date of Last Inspection: 12/17/2009
Compliance Code: C / Compliance - procedural requirements

Facility Data			Permit Applicability (this application only)		
<p>Applicant (Facility's Name): OMNOVA Solutions, Inc.</p> <p>Facility Address: OMNOVA Solutions, Inc. 2011 Rocky River Road North Monroe, NC 28110</p> <p>SIC: 2754 / Commercial Printing, Gravure NAICS: 323111 / Commercial Gravure Printing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>			<p>SIP: 2D .0959 NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other: RACT Review for Existing Facility in a Moderate NAA</p>		
Contact Data			Application Data		
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 9000117.07A Date Received: XX/XX/2008 Application Type: Modification Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 03281/T23 Existing Permit Issue Date: XX XX, 200X Existing Permit Expiration Date: February 28, 2013</p>		
<p>Michael Stroup Safety Engineer (704) 225-2010 2011 Rocky River Road North Monroe NC, 28110</p>	<p>Jon Schrader Director Of Plant Operations (704) 225-2017 2011 Rocky River Road North Monroe NC, 28110</p>	<p>Michael Stroup Safety Engineer (704) 225-2010 2011 Rocky River Road North Monroe NC, 28110</p>			
<p>Review Engineer: Charles F. Yirka</p> <p>Review Engineer's Signature: _____</p>		<p>Date: XX XX, 2010</p>	<p>Comments / Recommendations: Issue 03281/T24 Permit Issue Date: XX XX, 2010 Permit Expiration Date: February 28, 2013</p>		

I. Introduction and Purpose of Application

OMNOVA Solutions, Inc. (OMNOVA) operates rotogravure printers that print decorative and building products at this Union County site. The facility utilizes rotogravure printing presses, which all are controlled by two types of thermal oxidizers a standard direct natural gas/propane-fired unit (10.2 mmBtu/hr; ID No. C1) and a regenerative unit (76.3 mmBtu/hr; ID No. C2). These devices are configured to allow operation of one or both units.

OMNOVA is located in the Metrolina ozone non-attainment area. This area is classified as Moderate. As such major sources are required to apply RACT¹ to both new and existing sources.

¹ "Reasonably available control technology" (also denoted as RACT) means the lowest emission limit, which a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology, which has been, applied to similar, but not necessarily identical, source categories.

Major sources are defined as having potential emissions exceeding 100 tpy of NO_x and/or VOC. These pollutants are considered precursors leading to the formation of ground-level ozone. OMNOVA has the potential to emit over 100 tons per year of VOC. The facility appears to be a minor source for NO_x with potential emissions of less than 100 tpy. NO_x emissions result from the firing of natural gas associated with drying printed materials from the rotogravure printing operations and the operation of the natural gas-fired control devices (thermal oxidizers). The facility is located in the Metrolina ozone non-attainment area. As a result, the application addresses RACT applicability to existing sources. A concise permit history follows:

- July 17, 2007 - The DAQ provided notification that RACT may apply
- September 5, 2007 - The DAQ acknowledges and grants 90 day extension request for submittal
- September 18, 2007 - Date of Compliance Determination from OMNOVA
- March 18, 2008 - Request for additional information
- July 22, 2008 - Revised RACT application received with forms E1 and E5
- August 7, 2008 - Revised RACT application received
- November 23, 2009 - The DAQ requests additional information for Pyadia embosser emissions
- May 13, 2010 - The DAQ submits proposed permit and review for public notice and EPA review
- June 11, 2010 - DAQ received comments from applicant during the public notice period indicating OMNOVA prefers to comply with 2D .0959 - Petition for Superior Alternative Controls and not 2D .0920
- June 18, 2010 - Draft permit and review submitted to supervisor for review
- June XX, 2010 - The DAQ considers the changes to be significant therefore the revised permit and review is again submitted for public notice and EPA review.
- June XX, 2010 - The DAQ submits proposed permit and review for public notice and EPA review
- August XX, 2010 - Public notice and EPA review are complete. No comments were received.
- August XX, 2010 - Permit issued

II. Changes to Existing Title V Permit

The following table provides a summary of changes made to the permit **03281T23**:

Page	Section	Change
Cover letter	N/A	Header, footer, permit and application number, dates revised, indicate permit significant modification.
Attachment Insig List	N/A	Revise table insert explanatory footnotes e.g. indicating sources and coating line exempt from VOC RACT
Permit Cover	N/A	Update permit and application number and dates.
Table of Contents	N/A	Remove all references to Part I and II according to policy. Insert footnote re: RACT
7	Emission	-Include RACT designations to the Emission Source ID column

Page	Section	Change
	Source Table	identifying affected emissions units. -Include asterisk designating Pyadia embosser is exempt from RACT and footnote. -Added footnote indicating the facility is in a Moderate NAA and has undergone review.
7	1.	Remove all references to Part I according to policy.
9-10	2.1 A. 4.	Insert applicable RACT rule.
13	2.2 C.1.b.	Clarify PSD avoidance condition (C _i definition) to require thermal oxidizers to be operated at all times.
16-25	3.0	Replace General Conditions and List of Acronyms (version 3.1)

III. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. Ms. Melinda Wolannin, Mooresville Regional Office (MRO), last inspected the facility on December 17, 2009. According to the inspection report, at the time of inspection the facility appeared to be operating in compliance with applicable air quality regulations.

IV. Regulatory Review – Specific Emission Source Limitations

A. VOC RACT Review

A RACT review of an affected facility requires an evaluation of all sources of VOC emissions. The largest sources of emissions are the five multi-stage rotogravure printing presses. The applicant proposed two different viable alternatives for complying with RACT:

Option 1 - The application indicates OMNOVA can comply with the emissions standards of 2D .0920 - Paper Coating where all coatings are limited to 4.8 lb VOC/gallon of solids.

Option 2 - The application also indicates OMNOVA would like to invoke and petition the Director as per 2D .0959 - Petition for Superior Alternative Controls since the presses are all controlled by thermal oxidizers.

Additionally, OMNOVA indicated they will be an affected source when proposed rule 2D .0966 - Paper Film and Foil Coatings is adopted. This rule will replace 2D .0920. **It appears OMNOVA can now comply with Rule 2D .0920 and will be able to comply proposed Rule 2D .0966.** In the interim however OMNOVA has elected to petition the Director as per 2D .0959 and has shown the thermal oxidizers are superior to RACT (2D .0920). (See letter dated June 10, 2010 from OMNOVA).

Emission sources are grouped below to facilitate the review of RACT affected sources:

Group 1 - RACT-Insignificant Activities Subject to RACT Exemption

A review of all emissions units on the insignificant activities list was examined for RACT applicability. Those activities that were not part of a “coating line” are eligible for exemption. No insignificant activities appear to be part of a coating line. It was determined all insignificant activities also have emission of less than 15 lb/day this includes ink mixing, cleaning operations, tanks and boilers. Thus, these units were found to be exempt as per 2D .0902(b)(1) with VOC emissions of less than 15 lb/day. (Note: DAQ believes that individual emissions units cannot take the 15 lb/day exemption if they are part of a “coating line.” All emissions from the entire coating line will be quantified and compared to the 15 lb/day exemption).

Group 2 – Sources Subject to the Applicable Paper Coating RACT Rule 2D .0920 and 2D .0959 - Petition for Superior Alternative Controls

The application indicates all affected rotogravure printing presses 1, 2, 3, 4, and 6 are able to demonstrate compliance with 2D .0920 (c) limit of 4.8 lbs VOC emitted /gal of coating as delivered to the applicator. It appears the affected presses are not affected by the 2D .0920 (d) limit of 2.9 lb VOC emitted/gal of coating as delivered to the applicator. (As per 2D .0920(d) “any source which has chosen to control emissions of volatile organic compounds under Rule .0518 (e) of this Subchapter and which has installed air pollution control equipment in accordance with an air quality permit in order to comply with this Rule before December 1, 1989, may comply with the limits contained in this Paragraph instead of those contained in Paragraph (c) of this Rule.” **It is this engineers opinion that (d) does not apply as these operations do not appear to ever have been subject to 2D .0518(e).**)

The application also indicates that OMNOVA has maintained compliance with a PSD avoidance condition that limits emissions to less than 250 tons per year in accordance with 2Q .0317 for the control of VOC emissions from the rotogravure printing processes. To comply with this provision OMNOVA utilizes air pollution control devices (two thermal oxidizers). A standard direct fired thermal oxidizer (ID No. C1), installed in 1992, and a regenerative thermal oxidizer (ID No. C2) installed in 2000. The thermal oxidizers can be operated individually or simultaneously depending on production. Although as a title V permitted facility, OMNOVA is permitted to emit 100 tons or more of criteria pollutants, actual controlled VOC emissions are typically less than 50 tons per year.

Based on OMNOVA’s evaluation of RACT applicability, OMNOVA believes the existing thermal oxidizers provide the best, and most reasonable, control technology for the reduction of VOC emissions. Therefore, in accordance with 2D .0959 - Petition for Superior Alternative Controls OMNOVA requests the utilization of the existing thermal oxidizers is considered as RACT. **A review of RBLC and published CTGs would indicate these devices should be not be considered as RACT but superior to RACT.**

The new rule 2D .0966 when in effect will require will require controls. At this point the thermal oxidizers will be considered as RACT. OMNOVA will be required to submit an application demonstrating compliance with 2D .0966 (f) as follows:

“Any individual paper, film, and foil with the potential to emit, prior to controls, at least 25 tons per year of volatile organic compounds from coatings shall apply control with overall volatile organic compounds efficiency of 90 percent rather than the emission limits established in Paragraph (d) of this Rule or use a combination of coating and add-on control equipment on a coating unit to meet limits that are equivalent to 90 percent overall control efficiency.”

In the interim as these devices are considered superior to RACT, it is this engineers opinion, the application of RACT requires the thermal oxidizers to be operated at all times. It appears that the existing permit language in Section 2.2. C.1.b. infers, if not allows, the applicant to operate or not operate the thermal oxidizers as long as emissions remain less than 250 tpy. See ‘bold’ below:

“Calculations of the estimated VOC emissions per day shall be made at the end of each workday using the Equation 2 below:

$$\text{VOC} = \sum_{i=1}^n G_i W_i P_i (1.0 - C_i) 0.70 \quad (\text{Eq. 2})$$

where:

- VOC = The estimated daily VOC emissions based on a historical waste stream records, in units of pounds.
- i = Subscript denoting a specific solvent or ink used at the facility each day.
- n = The number of different solvents and/or inks used at the facility each day.
- G_i = The amount of each solvent or ink used that day in units of gallons.
- W_i = The weight of each solvent or ink used that day in units of pounds per gallon.
- P_i = The fractional VOC content by weight in each solvent or ink used each day.
- C_i = The applicable overall VOC destruction efficiency for any associated control system as determined by approved capture and destruction efficiency testing (zero if not controlled).”

To further clarify this point this engineer and Dr. van der Vaart, Chief of Air Permits Section, questioned the applicant as it appeared the applicant would like to be able retain this condition and the ability to turn off the oxidizers as means of saving fuel. The applicant however indicated that this was not practical particularly for the large regenerative unit and as a matter of corporate policy must operate the oxidizers. The applicant maintains that the devices *are operated at all times (except, of course, under SSM conditions)*. **This engineer recommends the provision in the PSD avoidance language that allows for the application of zero percent control efficiency be struck as follows:**

- C_i = The applicable overall VOC destruction efficiency for any associated control system as determined by approved capture and destruction efficiency testing (~~zero if not controlled~~).”

B. Applicable RACT Rule:

15A NCAC 2D .0959 PETITION FOR SUPERIOR ALTERNATIVE CONTROLS

The above rule applies to the flexographic printing operations and the associated thermal oxidizers. The oxidizer controls are already in place and in operation. The controls will provide a greater reduction of VOC emissions than mandating compliant coatings as per the Rule 2D .0922. 2D .0959 requires the petition to the Director include the following:

- (1) the name and address of the company and the name and telephone number of a company officer over whose signature the petition is submitted;
- (2) a description of all operations conducted at the location to which the petition applies and the purpose that the volatile organic compound emitting equipment serves within the operations;
- (3) reference to the specific operational and equipment controls under the rules of this Section for which alternative operational or equipment controls are proposed;
- (4) a detailed description of the proposed alternative operational or equipment controls, the magnitude of volatile organic compound emission reduction that will be achieved, and the quantity and composition of volatile organic compounds that will be emitted if the alternative operational or equipment controls are instituted; and
- (5) certification that emissions of all other air contaminants from the subject source are in compliance with all applicable local, state and federal laws and regulations.

This engineer recommends approval of the petition for alternative control as the above requirements from the rule have been met.

When controls different from those specified in the appropriate emission standards in this Section are approved by the Director, this rule requires the permit to contain a condition stating such controls. This permit contains a condition stating such controls. This engineer recommends the monitoring, recordkeeping, and reporting requirements associated with the PSD avoidance condition for VOC emissions Section 2.2 C.1. a. through g. sufficient in demonstrating compliance with this rule. The permit condition follows:

15A NCAC 2D .0959 PETITION FOR SUPERIOR ALTERNATIVE CONTROLS

- a. This Rule applies to all sources covered under this Section including the applicable rule 2D .0922 affected flexographic printing operations.
- b. The owner or operator of the affected flexographic printing operations has demonstrated that alternative VOC emissions control (thermal oxidizers) are superior to the requirements of 15A NCAC 2D .0922 Paper Coating.
- c. the Director has granted the petition allowing the use of superior alternative controls for the reduction of volatile organic compound emissions.

Testing [15A NCAC 2D. 2601]

- d. If emission testing is required, the testing shall be performed in accordance with 15A NCAC 2D. 2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.5.c. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0920.

Monitoring/Recordkeeping/Reporting [15A NCAC 2D .0903(f)]

- e. The monitoring, recordkeeping or reporting as required by Section 2.2 C.1. a. through g. shall be sufficient in demonstrating compliance with this rule. No additional monitoring, recordkeeping or reporting shall be required however the facility shall be deemed in noncompliance for monitoring and recordkeeping.

IV. NSPS, NESHAPS, NAA/NSR, CAM, 112(r), PE Requirements, Zoning Consistency, and Attainment Status:

NSPS, NESHAP/MACT , NAA/NSR , CAM, 112(r), PE Requirements, Zoning Consistency, did not apply. The facilities status is NAA/NSR major source for VOC emissions. The facility is located in a non-attainment area. This permit modification was to address RACT applicability only.

V. Facility-Wide Air Toxics:

The facility is subject to these requirements; this permit modification did not require a review of the state enforceable toxics rules.

VI. Public Notice and EPA Review:

Pursuant to 2Q .0521, a notice of the draft Title V Permit was placed in a newspaper of general circulation in the area where the facility is located. The notice provided for a 30 day comment period, with an opportunity for a public hearing. A copy of the public notice was sent to persons on the Title V mailing list and EPA. Pursuant to 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant was provided to EPA. Also pursuant to 2Q .0522, a notice of the draft Title V Permit was provided to each affected State at or before the time notice provided to the public under 2Q .0521 above.

VII. Comments from the Applicant and the Regional Office Public, EPA and Affected States:

First Proposed and Withdrawn Permit:

The Regional Office's comments were received in an e-mail on July 24, 2006. These comments were addressed under previous permit issuance. There were comments from the applicant during the public notice period indicating the applicant's preference for 2D .0959 instead of 2D .0920 with its burdensome recordkeeping requirements. During the public comment period the applicant requested the DAQ withdraw and re-propose the permit citing 2D .0959. The DAQ concurs; however, this permitting action is a significant modification from the RACT standpoint. The permit will be going back to notice and EPA review since we made a significant change pursuant to comments received.

Second Proposed Permit:

None OR the following comments were received from the applicant, regional office and or EPA:

The DAQ recommends issuance of permit 03281T24

PROPOSED