

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: TBD**

<p><b>Region:</b> Mooresville Regional Office  <b>County:</b> Catawba  <b>NC Facility ID:</b> 1800184  <b>Inspector's Name:</b> Jim Hafner  <b>Date of Last Inspection:</b> 06/11/2009  <b>Compliance Code:</b> In compliance</p>									
<p><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Plastic Packaging Inc</p> <p><b>Facility Address:</b>  Plastic Packaging Inc  1246 Main Avenue SE  Hickory, NC 28602</p> <p><b>SIC:</b> 2673 / Bags: Plastics, Laminated And Coated  <b>NAICS:</b> 326111 / Plastics Bag Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>			<p><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b>  <b>NSPS:</b>  <b>NESHAP:</b>  <b>PSD:</b>  <b>PSD Avoidance:</b>  <b>NC Toxics:</b>  <b>112(r):</b>  <b>Other:</b></p>						
<p><b>Contact Data</b></p> <table border="1"> <thead> <tr> <th>Facility Contact</th> <th>Authorized Contact</th> <th>Technical Contact</th> </tr> </thead> <tbody> <tr> <td>Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603</td> <td>Preston Bryant V.P. of Manufacturing (828) 328-2466 PO Box 2029 Hickory, NC 28603</td> <td>Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603</td> </tr> </tbody> </table>			Facility Contact	Authorized Contact	Technical Contact	Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603	Preston Bryant V.P. of Manufacturing (828) 328-2466 PO Box 2029 Hickory, NC 28603	Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603	<p><b>Application Data</b></p> <p><b>Application Number:</b> 1800184.09B  <b>Date Received:</b> 10/09/2009  <b>Application Type:</b> Modification  <b>Application Schedule:</b> TV-Sign-501(c)(2)</p> <p><b>Existing Permit Data</b>  <b>Existing Permit Number:</b> 04691/T18  <b>Existing Permit Issue Date:</b> 02/03/2010  <b>Existing Permit Expiration Date:</b> 03/31/2011</p>
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<p><b>Review Engineer:</b> Joseph Voelker</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>		<p><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 04691/T19  <b>Permit Issue Date:</b> TBD  <b>Permit Expiration Date:</b> 03/31/2011</p>							

**I. Purpose of Application**

Plastic Packaging, Inc. (PPI) is a plastic converter who prints customer designs, patterns and/or writing onto plastic (polyethylene / polypropylene) film utilizing wide web flexographic printing presses and then converts the material into plastic bags for various products manufactured by other industries.

This review will address two applications:

**09A** – This application was created on behalf of the regional office and was to be processed as “REOPEN FOR CAUSE. The region would like to remove monitoring conditions for the Laminator (ID No ES-14) given VE emissions are unlikely and other similar sources at the facility do not have them. Since a relaxation of the monitoring would require public/EPA review it will be consolidated with the other application [09B must go to public/EPA notice as it is a significant modification (“Part II”)]

**09B** - This application was submitted to satisfy the requirement in the cover letter of permit T17

*The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the air emission source (ID No. ES-14) on or before 12 months after commencing operation.*

Thus this is the second part of the two step application process outlined in 15A NCAC 2Q .0504 and 2Q .0501(c)(2). This condition was first placed into permit T16 issued July 24, 2008. T16 was issued in response to the facility submitting the PART I of a 501(c)(2) modification for the removal of presses (**ID Nos. ES-8 and ES-10**) and the construction and operation of the Laminator (**ID No. ES-14**, previously, currently **ID No. Laminator-14**).

The review for T16 will be included as an attachment to this review.

Additionally, application **09B** was also appended to satisfy the requirement in the cover letter of permit T18

*The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the air emission sources, ID Nos. Laminator-14 and Press 14, on or before 12 months after commencing operation.*

Thus this is the second part of the two step application process outlined in 15A NCAC 2Q .0504 and 2Q .0501(c)(2) for Press 14 as well. This condition was placed into permit T18 issued February 03, 2010. T18 was issued in response to the facility submitting the PART I of a 501(c)(2) modification for the removal of press 11 (**ID Nos. Press 11**) and the construction and operation of its replacement Press 14 (**ID No. Press 14**).

The review for T18 will be included as an attachment to this review.

## II. History/Background/Application Chronology

Date	Description
September 27, 2007	Permit application <b>08A</b> was received for a 501(c)(2) modification for the removal of presses ( <b>ID Nos. ES-8 and ES-10</b> ) and the construction and operation of the Laminator ( <b>ID No. ES-14</b> ).
July 24, 2008	Permit <b>T16</b> was issued. The permit required the submittal of a complete title V application within 12 months of operation of the new laminator ( <b>ID No. ES-14</b> ).
August 10, 2009	Application <b>09A</b> was initiated by the DAQ to remove monitoring conditions for the Laminator (ID No ES-14)
September 14, 2009	Application <b>09B</b> received to address PART II for a 501(c)(2) modification for the removal of presses ( <b>ID Nos. ES-8 and ES-10</b> ) and the construction and operation of the Laminator ( <b>ID No. ES-14</b> ) that was initially requested in application 08A and resulted in the issuance of permit T16 on July 24, 2008.
October 9, 2009	Application <b>09C</b> was received to address replacing an existing press (press-11) with a new press (press 14).
October 28, 2009	P&O received from the regional office (Denise Hayes)
November 30, 2009	Applications <b>09A</b> and <b>09C</b> consolidated in <b>09B</b>
November 6, 2009	An ADD INFO email was sent requesting among other things, revised forms and a revised PSD avoidance condition, since the one requested was not possible.
November 23, 2009	Email from Christine Brenk was received requesting a revised PSD avoidance condition
November 24, 2009	ADD INFO email was sent to Ms. Brenk to address the DRE assumption for the new and existing presses at the facility as well as Laminator 14
November 24, 2009	Ms. Brenk responded to the ADD INFO and stated that implicit in the Press 14 emissions calculations was a 34.9% DRE that was determined in a 1995 source test for presses that are no longer on site. No claims for a DRE are being made for Laminator 14.
November 24, 2009	Another ADD INFO was sent requesting information to support the assertion that the 34.9% number would be valid for the new Press 14 although it was determined for a different press in 1995.

Date	Description
December 18, 2009	Ms. Brenk responded with an email that compared the temperature, exhaust air flow and residence time among the new Press 14 and Presses 1 and 7 which were tested in 1995 and are no longer on site. See discussion in Section IV.
January 26, 2010	Draft of permit T18 sent to Permittee via email
February 2, 2010	Response from Permittee received via email stating : "We reviewed the draft and find it satisfactory. Please issue as soon as possible"
February 3, 2010	<ul style="list-style-type: none"> <li>▪ Application 09C was unconsolidated from 09B at the Permittee's request.</li> <li>▪ Permittee also requested that the application 09C be processed as a "Part I" application pursuant to the two-step process outlined in 15A NCAC 2Q .0504 and 2Q .0501(c)(2).</li> <li>▪ Permittee also requested that the application 09B be appended to be processed as a "Part II" application for Press 14 in addition to Laminator-14, pursuant to the two-step process outlined in 15A NCAC 2Q .0504 and 2Q .0501(c)(2).</li> </ul>
February 3, 2010	Permit T18 issued only addressing application 09C.
<del>October 8, 2008</del>	<del>Public Notice published in the Daily Record. Public and concurrent EPA comment period begins.</del>
<del>November 7, 2008</del>	<del>Public comment period ends. No comments received.</del>
<del>November 22, 2008</del>	<del>EPA comment period ends. No comments received.</del>

### III. Permit Modifications/Changes and ESM Discussion

- **Remove the monitoring requirements for the laminator (Laminator-14, formerly ES-14)**

At the regional office's request the monitoring condition currently included in the 2D .0521 (visible emissions) condition 2.1.C.2 for the laminator (ES-14) will be removed.

This source is the only source on site that has visible emission monitoring recordkeeping and reporting requirements. Jim Hafner, the DAQ compliance inspector for the facility, has sent an email stating:

" the other sources at Plastics Packaging have no requirements for visible emissions observations. The laminator is not likely to cause visible emissions. In 9 months of operation this source has emitted 1 ton of VOC. I would reopen for cause as the daily monitoring is not necessary".

Condition 2.1.C.2 c., d. and e. will be removed and replaced with the following:

**Monitoring, Recordkeeping and Reporting** [15A NCAC 2Q .0508(f)]

No monitoring, recordkeeping or reporting is required for visible emissions from operation of these sources.

- **Address Part II of the 501(c)(2) application for the laminator (Laminator-14) and Press (Press 14)**

**Laminator-14**

The technical review for the addition of Laminator-14 and the removal of presses (ID Nos. ES-8 and ES-10) is documented in the permit revision no. T16 review document and is included as attachment A to this review.

Since then, the permit was revised and issued as revision no. T17. T17 was subject to public and EPA review as a Part II of a 501(c)(2) application originally resulting in the issuance of permit no. T15. Hence no need to include these reviews as attachments or address these modifications further here.

Regarding any new regulations that may have applicability to the laminator addition, there are none. The area MACT for Plastics and Resin manufacturing which was scheduled for an October 2009 promulgation is potentially applicable but to date it has not been proposed, much less promulgated.

No further review is necessary for Laminator-14.

#### **Press 14**

The technical review for the addition of Press 14 (ID No. Press 14) and the removal of press 11 (ID Nos. Press 11) is documented in the permit revision no. T18 review document and is included as attachment B to this review. Given that the review document for T18 was created less than 1 day before this current review document for the PART II of the application, the review needs no further explanation.

No further review is necessary for Press 14.

### **V. NSPS, NESHAPS, PSD, Attainment Status, and CAM**

#### **NSPS**

The proposed modifications are not subject to any NSPS regulations.

#### **NESHAP/MACT**

The facility is not a major source of any HAPs and as such is not subject to any MACT standards. No area MACTs have been proposed to date that are applicable to this facility.

#### **PSD**

The facility is a PSD major source with three PSD avoidance conditions. Catawba County is in non-attainment for PM2.5.

#### **CAM**

From the recent inspection report (06/11/2009):

The control system would only be used if the facility determined that they needed to control VOC emissions to avoid exceeding the PSD avoidance limits. The facility has not needed to use the control system and the CAM plan has not been required. The facility does start-up the catalytic oxidizer once per month to make sure it is operating properly. They run the oxidizer for about 30 minutes for it to reach operating temperature.

### **VI. Compliance Status**

<b>Date</b>	<b>Comments</b>
03/17/2009	A NOV/NRE was issued to the Company on March 17, 2009 for a late and incomplete annual compliance certification, and for failure to notify in writing of the actual beginning operation date of the laminator (ID No. ES-14). The facility was assessed a fine of \$2,169 for the violations. The case was closed on May 14, 2009.
06/11/2009	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations."

### **VII. Permit History**

<b>Permit No.</b>	<b>Issuance Date</b>	<b>Description (taken from permit reviews verbatim)</b>
T18	February 3, 2010	This application was submitted to replace an existing press (press-11) with a new press (Press 14).

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T17	December 8, 2008	This application was submitted to satisfy the following requirement in Permit No. T15 (and T16) The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the air emission source(s) (ID No(s). Press 12 and Press 13) on or before 12 months after commencing operation.
T16	July 24, 2008	This application is for a new lamination process (ES-14) proposed for construction. In addition PPI has removed two existing presses (ID Nos. ES-8 and ES-10). Since the facility wishes to begin construction in July 2008, it was discussed that the most expedient manner to obtain a permit prior to July is to process it as a "two step modification" per 15A NCAC 2Q .0501(c)(2) which allows:
T15	June 7, 2007	This application is for construction and operation of two flexographic printing presses (Emission source Id. No. Press 12 and Press 13) that will replace three existing printing presses (Emission source Id. No. Press 6, Press 7 and Press 8). <i>As requested by Permittee, this application will be processed pursuant to the two-step procedure outlined in 15A NCAC 2Q .0501(c)(2). Two new presses will be constructed after obtaining an air permit in accordance with 15A NCAC 2Q .0300. A second application for the title V modification will be filed within 12 months of operation, in accordance with 15A NCAC 2Q .0504.</i>
T14	May 18, 2006	This permitting action is an administrative amendment of an existing Title V permit pursuant to 2Q .0514. The existing Title V permit (04691T13) was issued on April 28, 2006 and will expire on March 31, 2011. The administrative request was received on May 12, 2006 by Raleigh Central Office (RCO) and deemed complete. PPI requested on May 12, 2006 that the expiration date in header for the Air Quality Permit be corrected.
T13	April 28, 2006	This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (04691T12) was issued on October 4, 2000 and expired on September 30, 2005. The renewal application was received on December 22, 2004 by the Mooresville Regional Office (MRO) and deemed complete.

### VIII. Changes Implemented in Revised Permit

Existing Condition No.	New Condition No.	Changes
Cover letter	Same	Updated, dates and other relevant information for this modification
Permitted equipment list	Same	Removed asterisked language regarding 2Q.0501(c)(2) modification for Laminator-14 and Press 14
2.1.C.2 c.d. e.	2.1.C.2.c.	Condition 2.1.C.2 c., d. and e. were removed and replaced with the following:  <b><u>Monitoring, Recordkeeping and Reporting</u></b> [15A NCAC 2Q .0508(f)] c. No monitoring, recordkeeping or reporting is required for visible emissions from operation of these sources.

### IX. Public Notice/EPA and Affected State(s) Review

TBD

### X. Recommendations

It is recommended that permit no. 04691T19 be issued.

## **ATTACHMENT A**

### **Permit Review for Permit No. T16**

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: July 24, 2008**

<p align="center"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Plastic Packaging Inc</p> <p><b>Facility Address:</b> Plastic Packaging Inc 1246 Main Avenue SE Hickory, NC 28602</p> <p><b>SIC:</b> 2673 / Bags: Plastics, Laminated And Coated <b>NAICS:</b> 326111 / Plastics Bag Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>			<p><b>Region:</b> Mooresville Regional Office <b>County:</b> Catawba <b>NC Facility ID:</b> 1800184 <b>Inspector's Name:</b> Jim Hafner <b>Date of Last Inspection:</b> 03/25/2008 <b>Compliance Code:</b> 3/In Compliance - Inspection</p>						
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<p align="center"><b>Application Data</b></p> <p><b>Application Number:</b> 1800184.08A <b>Date Received:</b> 04/02/2008 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Sign-501(c)(2) <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 04691/T15 <b>Existing Permit Issue Date:</b> 06/07/2007 <b>Existing Permit Expiration Date:</b> 03/31/2011</p>									
<p><b>Review Engineer:</b> Joseph Voelker</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>		<p align="center"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 04691/T16 <b>Permit Issue Date:</b> July 24, 2008 <b>Permit Expiration Date:</b> 03/31/2011</p>							

**I. Purpose of Application**

Plastic Packaging, Inc. (PPI) is a plastic converter who prints customer designs, patterns and/or writing onto plastic (polyethylene / polypropylene) film utilizing wide web flexographic printing presses and then converts the material into plastic bags for various products manufactured by other industries.

This application is for a new lamination process proposed for construction. In addition PPI has removed two existing presses (ID Nos. ES-8 and ES-10).

Since the facility wishes to begin construction in July 2008, it was discussed that the most expedient manner to obtain a permit prior to July is to process it as a "two step modification" per 15A NCAC 2Q .0501(c)(2) which allows:

- c) With the exception in Paragraph (d) of this Rule, the owner or operator of an existing facility, new facility, or modification of an existing facility (except for minor modifications under Rule .0515 of this Section), including significant modifications that would not contravene or conflict with a condition in the existing permit, subject to the requirements of this Section shall not begin construction without first obtaining:

(2) a construction and operation permit following the procedures under Rule .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section.

It will be shown that although existing PSD avoidance conditions will be changed, it can be argued that the changes will not contravene or conflict with a condition in the existing permit in the sense that the conditions will become less stringent.

## II. Chronology

Date	Description
04/02/2008	Application received and accepted for processing
05/08/2008	JMV discussed with John Evans and William Willets the nuances of modifying two existing PSD avoidance conditions resulting from a single modification. Although a few options were created it was decided to let the Permittee address how they would like to be restricted since there could be more than one option and some options could be more constraining than others.
05/08/2008	JMV spoke with the consultant regarding: <ul style="list-style-type: none"> <li>▪ Confusing calculations – the netting analysis used data that did not match to the emissions inventories. It also unclear which years were used.</li> <li>▪ Ethyl acetate: consultant listed it as a HAP. It does not appear to be listed in 112(b) .</li> <li>▪ Requested MSDS to verify ethyl acetate/VOC composition of materials</li> </ul> This discussion was followed up with a letter stopping the processing clock.
05/16/2008	Additional information requested on 05/08/2008 was received via email from consultant. Some of the data supplied needed to be corrected. An email was sent to consultant asking for a corrected response letter.
05/19/2008	JMV spoke with Chrisine Brenk regarding the modeling analysis. It appeared that the analysis did not include the emissions associated with the existing permit exempt laminator.
05/22/2008	A revised modeling analysis (including the revisions requested on May 16) was submitted via email.
06/24/2008	The revised modeling analysis was approved by the AQAB
07/03/2008	JMV contacted consultant by phone requesting in which existing PSD avoidance condition the previously insignificant IES-5 should be included (See 2D .0530 discussion)
07/15/2008	Email was received from consultant stating “Please put the existing laminator in PSD Clause No. 2 (with Press 11)”
07/15/2008	Sent draft permit and review to region for review and comments
07/22/2008	Comments submitted via email have been addressed and incorporated into permit

## III. Modification Description

PPI would like to add the following emission sources to the air permit.

Equipment ID No.	Equipment Description	Control System ID No.	Control System Description
ES-14	Laminator, including a natural gas-fired dryer ( 1.0 million Btu per hour maximum heat input)	NA	NA

PPI would like to remove the following emission sources. Note that the control devices will remain.

Equipment ID No.	Equipment Description	Control System ID No.	Control System Description
Press 8 <b>CAM</b>	56 inches Wide Web Flexographic Press with eight printing stations and one natural gas-fired bake oven (2.4 million Btu per hour heat input capacity)	CD1.1 and CD1.2 ( <i>optional</i> )	natural gas-fired pilot burner (10 million Btu per hour heat input rate, catalytic fume oxidizer (manganese dioxide catalyst) with a heat exchanger
Press 10	45 inches Wide Web Flexographic Press with eight printing stations and one natural gas-fired bake oven (2.8 million Btu per hour heat input capacity)	NA	NA

### Emissions

#### ▪ Laminator

The solvents to be used in the laminator will be ethyl acetate (TAP/VOC) or methyl acetate (not HAP/TAP/VOC). Thus, ethyl acetate is the only solvent of concern.

Based on the application the PTE if operated continuously would be 59.5 lb/hr or 260.61 tpy. However, the facility wishes to avoid BACT limits and will be requesting PSD avoidance associated with this source. The facility has also performed dispersion modeling to comply with 2D .1100. See regulatory review for further discussion.

#### ▪ Dryer

The dryer will fire natural gas and therefore will have products of combustion for emissions in addition to the VOC/TAP emissions from the process. Given the small heat input (one million Btu per hour) the emissions will be minimal.

#### ▪ Removal of Presses 8 and 10

The removal of these presses and the associated emissions will offset the addition of the emissions associated with the new laminator.

Press 8 reported emissions of VOCs in 2006\*. Press 10 reported emissions of VOCs and glycol ethers in 2006\*.

\* Last year of data in IBEAM

## IV. Regulatory Review

The following regulations are applicable to the new laminator

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	As given by equations in Condition 2.1.C.1	15A NCAC 2D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0521
Volatile organic compounds	Work practice standards See Subsection 2.2 C.1	15A NCAC 2D .0958
Ethyl Acetate (Toxic Air Pollutant)	See Subsection 2.2 C.2; <i>State-enforceable only</i>	15A NCAC 2D .1100
Odorous emissions	See Subsection 2.2 B.1; <i>State-enforceable only</i>	15A NCAC 2D .1806
Volatile organic compounds	Less than 132.7 tons per consecutive 12-month period	15A NCAC 2Q .0317 (Avoidance of 2D .0530)

**15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**

The laminator will not have any pollution control and its emissions will emit out of its own stack, EP-14. Given this is not a unique process and the facility had a small laminator on site previously and had no opacity issues, compliance with this regulation is expected.

**15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**

The PM emissions will most likely be condensable PM from the combustion of natural gas and possibly from the VOC. These PM emissions are small in comparison to the large throughput of the process. Compliance with this regulation is expected.

**15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

Sulfur dioxide from natural gas combustion is very small and no sulfur dioxide emissions are expected from the process. No M/R/R will be required as is typical for natural gas combustion sources.

**15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

The facility is already subject to this regulation and the additional source will not require anything unique. Compliance is expected with this regulation.

**15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

The facility is already subject to this regulation and the additional source will not require anything unique. Compliance is expected with this regulation.

**15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

The installation of the new laminator (ES-14) will involve the use of ethyl acetate (CAS No. 141-78-6) in quantities that could result in emissions greater than its TPER. The maximum hourly emissions will be 59.5 lb/hr. This is the only TAP associated with this modification. Ethyl acetate (as evidenced by the emissions inventory submittal) is also emitted by the existing laminator (IES-5). Ethyl acetate is utilized at IES5 to clean its rolls. The maximum solvent use is 5 gallons per day (37.6 pounds per day). As a worse case assessment it was assumed that this amount would be emitted in one hour. Thus the total potential hourly emissions are 97.1 pounds per hour. The existing laminator is located in the same room in which ES-14 will be located, thus it is assumed that the ethyl acetate emitted into the room during the cleaning of IES 5 will be exhausted out of ES-14's two stacks. Thus, there will be two permitted sources of ethyl acetate emitting out two common stacks.

The facility submitted a modeling demonstration utilizing the SCREEN3 model, which was reviewed by the AQAB. Mark Yoder issued a memo on April 11, 2008 stating, "the modeling analysis adequately demonstrates compliance with the respective standard on a facility-wide basis." Mr. Yoder analyzed the resubmitted data as discussed in the Chronology and issued a memo on June 24, 2008 stating, "the modeling analysis continues to demonstrate compliance with respective standard on a facility-wide basis."

No M/R/R will be required given that the facility modeled its maximum emission rate with a conservative model and only had a maximum impact of 53% of the AAL guideline.

**15A NCAC 2Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

The facility currently has two PSD avoidance conditions in its permit. The Permittee would like to take a restriction to keep the emissions from the modification (i.e., the new laminator) to the less than significant level. Since the facility is removing two presses 8 and 10, the facility has conducted netting calculations to determine what the PSD avoidance condition for the new source and the remaining sources will be.

**Existing conditions**

The PSD avoidance conditions in the current permit T15 are as follows:

In order to avoid applicability of this regulation, the above emission sources (**ID Nos. Press 8, Press 12 and Press 13**) shall discharge into the atmosphere less than 189 tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]

In order to avoid applicability of this regulation, the above emission sources (**ID Nos. Press 10 and Press 11**) shall discharge into the atmosphere less than 250 tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]

For the netting calculations the facility chose calendar years 2004 and 2005. These data were readily available and are similar to the data from 2006. Since the data was similar no concerns were raised that the facility was trying to inflate the baseline emissions to achieve a less restrictive PSD avoidance condition.

There were some concerns about the actual magnitudes of the 2004 VOC data used in the netting analysis. The 2004 emissions inventory (in paper form, as the 2004 data was not uploaded into IBEAM) and the data submitted in the application did not match. Upon investigation an email was found that the data was corrected on July 2005. For the relevant sources the emissions are as follows:

**Table 1 \***

Emission Source	Emission (tons/yr)		
	2004	2005	Ave
Press 10	59.39	47.41	53.4
Press 11	33.7	38.8	36.25
Press 8	39.17	39.45	39.31

\* Table from May 21, 2008 letter Air Permit Application Addendum

During the TAP modeling review for the new laminator it was “discovered” that the existing laminator (IES-5) did utilize VOC containing solvents for maintenance (**see the 2D .1100 discussion**). Thus it should have been included in one of the existing PSD avoidance conditions. Therefore it will be added, based on the response of the Permittee, to the condition affecting Press 11.

The new and revised PSD avoidance conditions were determined as follows. These values were discussed with William Willets and John Evans.

**Table 2**

PSD Clause	Emission Sources	Emission Limits
1	Press 12 & 13	Current limit minus Press 8 = $189 - 39.3 = 149.7$ tons/year
2	Press 11 & ES-5	Current limit minus Press 10 = $250 - 53.4 = 196.6$ tons/yr
3 (new)	Laminator	Press 8 + Press 10 + 40 = $39.3 + 53.4 + 40 = 132.7$ tons/yr

In summary, the baseline emissions for the removed presses were given to the new laminator with the additional 40 tpy (significance level).

## V. NSPS, NESHAPS, PSD, Attainment Status, 112(r), and CAM

### NSPS

The proposed modification is not subject to any NSPS regulations.

### NESHAP/MACT

The facility is not a major source of any HAPs and as such is not subject to any MACT standards.

### PSD

See the Section IV for PSD avoidance discussion. The facility is a PSD major source with two PSD avoidance conditions.

**112(r)**

Ethyl Acetate has no Threshold quantity under 112(r).

**CAM**

The laminator will not utilize a control device. Thus CAM does not apply.

**VI. Compliance History**

Date	Comments
03/25/2008	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations."
03/28/2007	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations".
06/15/2006	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations".
03/09/2005	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations".
03/24/2004	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations".

**VII. Permit History**

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T15	June 7, 2007	This application is for construction and operation of two flexographic printing presses (Emission source Id. No. Press 12 and Press 13) that will replace three existing printing presses (Emission source Id. No. Press 6, Press 7 and Press 8). <i>As requested by Permittee, this application will be processed pursuant to the two-step procedure outlined in 15A NCAC 2Q .0501(c)(2). Two new presses will be constructed after obtaining an air permit in accordance with 15A NCAC 2Q .0300. A second application for the title V modification will be filed within 12 months of operation, in accordance with 15A NCAC 2Q .0504.</i>
T14	May 18, 2006	This permitting action is an administrative amendment of an existing Title V permit pursuant to 2Q .0514. The existing Title V permit (04691T13) was issued on April 28, 2006 and will expire on March 31, 2011. The administrative request was received on May 12, 2006 by Raleigh Central Office (RCO) and deemed complete. PPI requested on May 12, 2006 that the expiration date in header for the Air Quality Permit be corrected.
T13	April 28, 2006	This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (04691T12) was issued on October 4, 2000 and expired on September 30, 2005. The renewal application was received on December 22, 2004 by the Mooresville Regional Office (MRO) and deemed complete. The renewal application was received at least nine months prior to the expiration date. Therefore, the existing permit will not expire until the renewal permit has been issued or denied with submittal of a complete and timely application, and the terms and conditions of the existing permit will remain in effect until the renewal permit has been issued or denied pursuant to 2Q .0513.

**VIII. Changes Implemented in Revised Permit**

Condition No.	Changes
Cover letter	Updated, dates and other relevant information for this modification
Insignificant activities list	Revised layout to current DAQ standards Removed IES-5
Permitted equipment list	<ul style="list-style-type: none"> <li>▪ Removed Presses 8 and 10</li> <li>▪ Added the Laminator (ES-14)</li> <li>▪ Added IES-5 as ES-5</li> </ul>
2.1A.1, 2 and 3.	Removed reference to Press 8 from all conditions
2.1.A.3.	Changed the PSD avoidance condition from: emission sources (ID Nos. Press 8, Press 12 and Press 13) shall discharge into the atmosphere less than 189 tons of VOCs per consecutive 12-month period; to emission sources (ID Nos. Press 12 and Press 13) shall discharge into the atmosphere less than 149.7 tons of VOCs per consecutive 12-month period.
2.1.A.4	Added a 2D. 0516 condition since the associated bake oven combusts fuel. No M/R/R required since combustion involves only Natural Gas.
2.1.B	<ul style="list-style-type: none"> <li>• Added reference to ES-5</li> <li>• In the applicable regulations table, reference to 2D. 1100 was added because of its applicability to ES-5</li> </ul>
2.1B.1., 2. and 3	Removed reference to Press 10 from all conditions
2.1.B.2.	Added reference to ES-5
2.1.B.3.	Changed the PSD avoidance condition from: emission sources (ID Nos. Press 10 and Press 11) shall discharge into the atmosphere less than 250 tons of VOCs per consecutive 12-month period; to emission sources (ID No. Press 11 and ES-5) shall discharge into the atmosphere less than 196.6 tons of VOCs per consecutive 12-month period.
2.1.B.4	Added a 2D. 0516 condition since the associated bake oven combusts fuel. No M/R/R required since combustion involves only Natural Gas.
2.1.C	Added conditions for the new laminator (ES-14). Applicable regulations include: <ul style="list-style-type: none"> <li>▪ 2D .0516 (sulfur dioxide) – No M/R/R since only combustion of Natural Gas</li> <li>▪ 2D .0521(opacity standard) – similar requirements to the existing sources without control devices</li> <li>▪ 2D .0530 PSD avoidance – The new source will have an avoidance limit of 132.7 tpy</li> <li>▪ 2D .0958 (work practices for VOCs) - condition is contained in Section 2.2. Requirements identical to the existing sources subject to this regulation</li> <li>▪ 2D .1100 (Toxic air Pollutants) – condition contained in Section 2.2.C.</li> <li>▪ 2D.1806 (odors) - condition is contained in Section 2.2. Requirements identical to the existing sources subject to this regulation</li> <li>▪ Added a commencement of operation notification requirement per the Regional Office’s request</li> </ul>
2.2.A.1.	Removed reference to Press 8 from the CAM condition
2.2.C.2	Added a condition to address 2D .1100 (toxic air pollutants). The facility emits only a single TAP (non-exempt, that is). The Permittee modeled its maximum emission rates using the conservative SCREEN3 model and had maximum impacts of 53% of the AAL guideline. No M/R/R will be required given the margin of compliance with a conservative modeling strategy using the maximum emission rate..
General Conditions	Updated to version v.2.22.1, which includes the new conditions: <ul style="list-style-type: none"> <li>• MM, which is for 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources", a state enforceable only condition and</li> <li>• NN, which addresses application guidance for modifications made pursuant to 15A NCAC 2Q .0501(c)(2), 15A NCAC 2Q .0501(d)(2), and 502(b)(10), in accordance with 15A NCAC 2Q .0523(a)(1)(C)</li> </ul>
<b>PART II</b>	
ALL	Removed all of PART II conditions. TV permits will no longer include PART II. Requirements previously contained in PART II are contained in the revised General Conditions or in the new permit body.

**IX. Recommendations**

It is recommended that permit no. 04691T16 be issued.

## **ATTACHMENT B**

### **Permit Review for Permit No. T18**

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date: February 3, 2010**

**Region:** Mooresville Regional Office  
**County:** Catawba  
**NC Facility ID:** 1800184  
**Inspector's Name:** Jim Hafner  
**Date of Last Inspection:** 06/11/2009  
**Compliance Code:** In Compliance

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Plastic Packaging Inc  <b>Facility Address:</b> Plastic Packaging Inc 1246 Main Avenue SE Hickory, NC 28602  <b>SIC:</b> 2673 / Bags: Plastics, Laminated And Coated <b>NAICS:</b> 326111 / Plastics Bag Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> Yes <b>NSPS:</b> No <b>NESHAP:</b> No <b>PSD:</b> NA <b>PSD Avoidance:</b> Yes <b>NC Toxics:</b> No <b>112(r):</b> no <b>Other:</b> Part I of two part process
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 1800184.09C <b>Date Received:</b> 10/09/2009 <b>Application Type:</b> Modification <b>Application Schedule:</b> TV-Sign-501(c)(2) <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 04691/T17 <b>Existing Permit Issue Date:</b> 12/08/2008 <b>Existing Permit Expiration Date:</b> 03/31/2011
Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603	Preston Bryant V.P. of Manufacturing (828) 328-2466 PO Box 2029 Hickory, NC 28603	Ron Windley Technical Manager (828) 328-2466 PO Box 2029 Hickory, NC 28603	
<b>Review Engineer:</b> Joseph Voelker		<b>Comments / Recommendations:</b>	
<b>Review Engineer's Signature:</b>	<b>Date:</b>	<b>Issue</b> 04691/T18 <b>Permit Issue Date:</b> 02/03/2010 <b>Permit Expiration Date:</b> 03/31/2011	

**I. Purpose of Application**

Plastic Packaging, Inc. (PPI) is a plastic converter who prints customer designs, patterns and/or writing onto plastic (polyethylene / polypropylene) film utilizing wide web flexographic printing presses and then converts the material into plastic bags for various products manufactured by other industries.

This application was submitted to replace an existing press (press-11) with a new press (Press 14). The permittee requests that it be processed as a minor modification. It is likely that should be considered a significant modification as they are requesting to modify an existing monitoring condition (PSD avoidance) However, given that the net effect of the significant modification will result in a lower permitted emissions, it qualifies to be processed per 15A NCAC 2Q .0501(c)(2) which allows:

- c) With the exception in Paragraph (d) of this Rule, the owner or operator of an existing facility, new facility, or modification of an existing facility (except for minor modifications under Rule .0515 of this Section), including significant modifications that would not contravene or conflict with a condition in the existing permit, subject to the requirements of this Section shall not begin construction without first obtaining:*
- (2) a construction and operation permit following the procedures under Rule .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section.*

It will be shown that although an existing PSD avoidance condition will be changed, it can be argued that the changes will not contravene or conflict with a condition in the existing permit in the sense that the conditions will become less stringent.

## II. History/Background/Application Chronology

Date	Description
September 27, 2007	Permit application <b>08A</b> was received for a 501(c)(2) modification for the removal of presses ( <b>ID Nos. ES-8 and ES-10</b> ) and the construction and operation of the Laminator ( <b>ID No. ES-14</b> ).
July 24, 2008	Permit <b>T16</b> was issued. The permit required the submittal of a complete title V application within 12 months of operation of the new laminator ( <b>ID No. ES-14</b> ).
August 10, 2009	Application <b>09A</b> was initiated by the DAQ to remove monitoring conditions for the Laminator (ID No ES-14)
September 14, 2009	Application <b>09B</b> received to address PART II for a 501(c)(2) modification for the removal of presses ( <b>ID Nos. ES-8 and ES-10</b> ) and the construction and operation of the Laminator ( <b>ID No. ES-14</b> ) that was initially requested in application 08A and resulted in the issuance of permit T16 on July 24, 2008.
October 9, 2009	Application <b>09C</b> was received to address replacing an existing press (press-11) with a new press (press-14).
October 28, 2009	P&O received from the regional office (Denise Hayes)
November 30, 2009	Applications <b>09A</b> and <b>09C</b> consolidated in <b>09B</b>
November 6, 2009	An ADD INFO email was sent requesting among other things, revised forms and a revised PSD avoidance condition, since the one requested was not possible.
November 23, 2009	Email from Christine Brenk was received requesting a revised PSD avoidance condition
November 24, 2009	ADD INFO email was sent to Ms. Brenk to address the DRE assumption for the new and existing presses at the facility as well as Laminator 14
November 24, 2009	Ms. Brenk responded to the ADD INFO and stated that implicit in the Press 14 emissions calculations was a 34.9% DRE that was determined in a 1995 source test for presses that are no longer on site. No claims for a DRE are being made for Laminator 14.
November 24, 2009	Another ADD INFO was sent requesting information to support the assertion that the 34.9% number would be valid for the new Press 14 although it was determined for a different press in 1995.
December 18, 2009	Ms. Brenk responded with an email that compared the temperature, exhaust air flow and residence time among the new Press 14 and Presses 1 and 7 which were tested in 1995 and are no longer on site. See discussion in Section IV.
January 26, 2010	Draft of permit sent to Permittee via email
February 2, 2010	Response from Permittee received via email stating : "We reviewed the draft and find it satisfactory. Please issue as soon as possible"
February 3, 2010	Application 09C was unconsolidated from 09B at the Permittee's request.

## III. Permit Modifications/Changes and ESM Discussion

### ▪ Address the request to replace an existing press (press-11) with a new press (Press 14).

The Permittee proposes to install a new flexographic printing press (ID No. Press 14) to replace a press (ID No. Press-11) which is planned for removal in December 2009. Construction of Press 14 is planned for January 2010.

The permitted equipment list will be modified as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
Press 11	36 inches Wide Web Flexographic Press with eight printing stations and one natural gas-fired bake oven (0.8 million Btu per hour heat input capacity)	CD1.1 and CD1.2 <i>(optional)</i>	natural gas-fired pilot burner (10 million Btu per hour heat input rate), catalytic fume oxidizer (manganese dioxide catalyst) with a heat exchanger
<b>Will be replaced with</b>			
Press 14	35 inches wide web flexographic press with eight printing stations and one natural gas-fired drying oven (2.4 million Btu per hour heat input capacity)	No change	No change

Note that an optional control device is available but whose operation is not required. As explained in the recent compliance inspection report by Jim Hafner (6/11/2009)

*The optional control system has not been operated in several years since the facility has not come close to exceeding the uncontrolled PSD avoidance limits for VOC.*

Also note that the press actually encompasses the multiple printing stations as well as the drying oven. Although not explicitly presented in the application as such, the Permittee wishes to claim a destruction removal efficiency (DRE) for VOC/HAP/TAP for the oven. This drying oven, like the others on site, is **not** an indirect heat exchanger hence it is reasonable that there may be some destruction. This approach has been taken in the past. However, it will be shown that source testing will be required to verify the DRE for Press 14.

See the regulatory review in Section IV.

### **Equipment List Changes**

The equipment list will be revised as follows to avoid the confusion of similar ID nos. The ID Nos. where referenced throughout the permit will be revised as necessary as well.

<b>EXISTING</b>	<b>EXISTING</b>	<b>NEW</b>
<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Emission Source ID No.</b>
ES-5	Solventless Laminator	Laminator-5
ES-14	Laminator, including a natural gas-fired dryer (1.0 million Btu per hour maximum heat input)	Laminator-14

## **IV. Regulatory Review**

The following regulations are applicable to the new press (Press 14).

<b>Regulated Pollutant</b>	<b>Limits/Standards</b>	<b>Applicable Regulation</b>
Particulate matter	PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES	15A NCAC 2D .0515
Visible emissions	CONTROL OF VISIBLE EMISSIONS	15A NCAC 2D .0521
Sulfur Dioxide	SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES	15A NCAC 2D .0516
Odorous emissions	CONTROL AND PROHIBITION OF ODOROUS EMISSIONS	15A NCAC 2D .1806
Volatile organic compounds	AVOIDANCE CONDITIONS for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION  COMPLIANCE ASSURANCE MONITORING (40 CFR Part 64)  WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS	15A NCAC 2Q .0317 (Avoidance of 2D .0530)  15A NCAC 2D .0614 (40 CFR Part 64)  15A NCAC 2D .0958
TAPs	TPERS	15A NCAC 2Q.0711

#### **15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**

The new source will consist of a flexographic press with a natural gas fired drying oven, essentially the same as the previous arrangement. Based on the monitoring requirements for the other presses (and the one removed) at the facility visible emissions are not expected. No monitoring recordkeeping or reporting requirements will be included in the permit.

#### **15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES**

The PM emissions will most likely be condensable PM from the combustion of natural gas and possibly from the VOC. These PM emissions are small in comparison to the large throughput of the process. Compliance with this regulation is expected.

#### **15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**

Sulfur dioxide from natural gas combustion is very small and no sulfur dioxide emissions are expected from the process. No M/R/R will be required as is typical for natural gas combustion sources.

#### **15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**

The facility is already subject to this regulation and the additional source will not require anything unique. Compliance is expected with this regulation.

#### **15A NCAC 2D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**

The facility is already subject to this regulation and the additional source will not require anything unique. Compliance is expected with this regulation

#### **15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS**

TAP emissions from this source include:

Styrene (100-42-5), Toluene (108-88-3) and Hydrochloric Acid (7647-01-0).

Note that other TAPs are probably (per AP-42) emitted based on the combustion of natural gas in the drying oven. These TAPs are not subject to 2D.1100. This comment applies to the other drying ovens on site as well.

The application included a facility-wide summary as follows:

TAP	lb/hr	lb/day	lb/yr	TPER
Styrene (100-42-5)	0.0008	0.020	7.39	2.7 lb/hr
Toluene (108-88-3)	0.096	2.307	841.98	98 lb/day, 14.4 lb/hr
Hydrochloric Acid (7647-01-0).	0.0001	0.002	0.66	0.18 lb/hr
Ethyl acetate (141-78-6)	97.1	2330.4	850,596	36 lb/hr

The ethyl acetate is the only TAP emitted at a rate above its respective TPER and is not emitted from the sources being added or removed in this modification. Thus no modeling is necessary.

A 2Q.0711 stipulation will be added to the permit to document that Styrene (100-42-5), Toluene (108-88-3) and Hydrochloric Acid (7647-01-0) are emitted below their respective TPERs.

**15A NCAC 2Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

The facility currently has three PSD avoidance conditions in the current permit summarized as follows:

In order to avoid applicability of this regulation, the above emission sources ( <b>ID Nos. Press 12 and Press 13</b> ) shall discharge into the atmosphere less than 149.7 tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]
In order to avoid applicability of this regulation, the above emission sources ( <b>ID No. Press 11 and ES-5</b> ) shall discharge into the atmosphere less than 196.6 tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]
In order to avoid applicability of this regulation, the laminator ( <b>ID No. ES-14</b> ) shall discharge into the atmosphere less than 132.7 tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]

In an email dated November 23, 2009, the Permittee revised its PSD avoidance request and would like the following PSD condition encompassing the new Press 14 to read as follows:

.In order to avoid applicability of this regulation, the above emission sources (**ID No. Press 14 and ES-5**) shall discharge into the atmosphere less than **77.7** tons of VOCs per consecutive 12-month period. [15A NCAC 2D .0530]

The 77.7 tpy limit was calculated as follows:

$$77.7 \text{ tpy} = 37.7 \text{ tpy} + 40 \text{ tpy}$$

where

37.7 tpy = the average actual emissions in calendar years 2004 and 2005 from sources ES-11 and ES-5

40 tpy = emission limit associated with the addition of Press 14 that will keep the modification below significant for PSD purposes

The emissions inventory data for 2004 and 2005 is as follows:

	tpy	tpy	tpy
--	-----	-----	-----

	<b>Press-11</b>	<b>ES-5</b>	<b>total</b>
<b>2004</b>	33.7	1.9	35.6
<b>2005</b>	38.8	1.0	39.8
<b>sum</b>	72.5	2.9	75.4
<b>avg</b>	36.3	1.5	<b>37.7</b>

In summary, the baseline actual emissions for the removed press and remaining ES-5 were given to the new press with the additional 40 tpy (significance level).

Note that the facility could have simply chosen to give the new press a limit of 40 tpy but chose this option for the increased flexibility (from an emissions perspective) it affords.

### **Emission Calculation Strategy and Assumed Destruction in Drying Oven**

The Permittee submitted emission estimates based on scaling previously reported emission values in proportion to the throughput of the new press. The new press presumably is similar in design to the press (s) from which the emission estimates were based. However, the previous emissions estimates assume a DRE of 34.9%.

In 1995, the facility tested two presses (Press 1 and 7, neither are still on site) and determined the following DRE for the presses' associated drying ovens:

<b>Press</b>	<b>Destruction Efficiency</b>
Press #1	44.2
Press #7	35.9

The Permittee (with DAQ approval) since 1996 has used a DRE value of 34.9% in its PSD avoidance conditions on all of its presses. The use of an assumed DRE with untested drying ovens is not a common practice for similar operations at other facilities.

On December 18, 2009 the facility provided a comparison between the new press 14 and Presses 1 and 7, which were tested in 1995. The comparison was rather "soft" and simply compared flowrates, temperature and estimated retention time. Given that it is likely ink or coating formulations have changed and no substantive data supporting the configuration and performance of the drying operations to be the same, testing will be required for the new Press 14.

A condition will be placed into the permit to ensure the test data is used to revise as necessary the permit to account for the new press' performance if the DRE is less than 34.9%. The intent of the testing is to establish a valid DRE for all compounds where the assumption is made, which to date has been for all VOC/HAP/TAP emissions from the presses. The condition will allow latitude for discussion with the SSCB to determine an adequate testing protocol such that the SSCB may determine that a total VOC DRE test can serve as a surrogate for individual HAP/TAP species, thereby avoiding unnecessary testing expense.

Other than requiring testing, the recordkeeping and reporting requirements for the new Press 14 will be the same as the removed press 11.

Although Catawba County is in non-attainment for PM<sub>2.5</sub>, this modification will not result in a significant emissions increase of PM<sub>2.5</sub> (i.e., the direct PM<sub>2.5</sub> is less than 10 tpy per current DAQ guidance of 12/10/2009). A NAA NSR avoidance condition is not necessary for PM<sub>2.5</sub>.

## **V. NSPS, NESHAPS, PSD, Attainment Status, and CAM**

### **NSPS**

The proposed modification is not subject to any NSPS regulations.

**NESHAP/MACT**

The facility is not a major source of any HAPs and as such is not subject to any MACT standards. No area MACTs have been proposed to date that are applicable to this facility.

**PSD**

See Section IV for PSD avoidance discussion. The facility is a PSD major source with three PSD avoidance conditions. Catawba County is in non-attainment for PM2.5.

**CAM**

From the recent inspection report (06/11/2009):

The control system would only be used if the facility determined that they needed to control VOC emissions to avoid exceeding the PSD avoidance limits. The facility has not needed to use the control system and the CAM plan has not been required. The facility does start-up the catalytic oxidizer once per month to make sure it is operating properly. They run the oxidizer for about 30 minutes for it to reach operating temperature.

**VI. Compliance Status**

Date	Comments
03/17/2009	A NOV/NRE was issued to the Company on March 17, 2009 for a late and incomplete annual compliance certification, and for failure to notify in writing of the actual beginning operation date of the laminator (ID No. ES-14). The facility was assessed a fine of \$2,169 for the violations. The case was closed on May 14, 2009.
06/11/2009	Compliance inspection by Jim Hafner. As stated in the conclusion of the inspection report "Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations."

**VII. Permit History**

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T17	December 8, 2008	This application was submitted to satisfy the following requirement in Permit No. T15 (and T16)  The Permittee shall file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the air emission source(s) (ID No(s). Press 12 and Press 13) on or before 12 months after commencing operation.
T16	July 24, 2008	This application is for a new lamination process (ES-14) proposed for construction. In addition PPI has removed two existing presses (ID Nos. ES-8 and ES-10). Since the facility wishes to begin construction in July 2008, it was discussed that the most expedient manner to obtain a permit prior to July is to process it as a "two step modification" per 15A NCAC 2Q .0501(c)(2) which allows:
T15	June 7, 2007	This application is for construction and operation of two flexographic printing presses (Emission source Id. No. Press 12 and Press 13) that will replace three existing printing presses (Emission source Id. No. Press 6, Press 7 and Press 8).  <i>As requested by Permittee, this application will be processed pursuant to the two-step procedure outlined in 15A NCAC 2Q .0501(c)(2). Two new presses will be constructed after obtaining an air permit in accordance with 15A NCAC 2Q .0300. A second application for the title V modification will be filed within 12 months of operation, in accordance with 15A NCAC 2Q .0504.</i>

Permit No.	Issuance Date	Description (taken from permit reviews verbatim)
T14	May 18, 2006	This permitting action is an administrative amendment of an existing Title V permit pursuant to 2Q .0514. The existing Title V permit (04691T13) was issued on April 28, 2006 and will expire on March 31, 2011. The administrative request was received on May 12, 2006 by Raleigh Central Office (RCO) and deemed complete. PPI requested on May 12, 2006 that the expiration date in header for the Air Quality Permit be corrected.
T13	April 28, 2006	This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (04691T12) was issued on October 4, 2000 and expired on September 30, 2005. The renewal application was received on December 22, 2004 by the Mooresville Regional Office (MRO) and deemed complete.

### VIII. Changes Implemented in Revised Permit

Existing Condition No.	New Condition No.	Changes
Cover letter	Same	Updated, dates and other relevant information for this modification
Permit, Page 3	Same	The first two introductory paragraphs were removed as they have been deemed redundant and unnecessary
Permitted equipment list	Same	Removed Press 11 <ul style="list-style-type: none"> <li>▪ Added Press 14</li> <li>▪ Added asterisked language regarding 2Q.0501(c)(2) modification for new Press 14</li> <li>▪ Changed ES-5 to Laminator-5. This change was made throughout the permit as well.</li> <li>▪ Changes ES-14 to Laminator-14. This change was made throughout the permit as well.</li> </ul>
2.1.C.5	same	The notification requirement was removed as it started up in October 2008.
2.1.B.	same	<ul style="list-style-type: none"> <li>▪ Removed reference to Press 11 and added Press 14</li> <li>▪ Added reference to 2Q.0711 condition 2.2.C.3.</li> </ul>
2.1.B.1	same	Removed reference to Press 11 and added Press 14
2.1.B.2	same	Removed reference to Press 11 and added Press 14
2.1.B.3.a	same	Removed reference to Press 11 and added Press 14 Changed 196.6 tpy to 77.7 tpy
N/A	2.1.B.3.b. and c.	Added testing conditions
2.1.B.b.,c.,d., and e.	2.1.B d., e., f and g.	Revised numbering after adding the testing conditions
2.2.	same	In the 2D.0614 (CAM) condition, removed reference to Press 11 and added Press 14
2.2.C.3.	same	Added a 2Q.0711 condition to document the TAPs emitted below their respective TPERs
General Conditions	same	Revised to current revision 3.1.

### IX. Public Notice/EPA and Affected State(s) Review

NA

### X. Recommendations

It is recommended that permit no. 04691T18 be issued.