

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:**

**Region:** Mooresville Regional Office  
**County:** Catawba  
**NC Facility ID:** 1800184  
**Inspector's Name:** Jim Hafner  
**Date of Last Inspection:** 04/29/2010  
**Compliance Code:** 3 / Compliance - inspection

|   |   |   |   |  |
|---|---|---|---|--|
| <b>Facility Data</b>  |   |   | <b>Permit Applicability (this application only)</b>   |  |
| <b>Applicant (Facility's Name):</b> Plastic Packaging Inc<br><br><b>Facility Address:</b><br>Plastic Packaging Inc<br>1246 Main Avenue SE<br>Hickory, NC 28602<br><br><b>SIC:</b> 2673 / Bags: Plastics, Laminated And Coated<br><b>NAICS:</b> 326111 / Plastics Bag Manufacturing<br><br><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V<br><b>Fee Classification: Before:</b> Title V <b>After:</b> Title V |   |   | <b>SIP:</b><br><b>NSPS:</b><br><b>NESHAP:</b><br><b>PSD:</b><br><b>PSD Avoidance:</b><br><b>NC Toxics:</b><br><b>112(r):</b><br><b>Other:</b> <b>Permit Renewal</b>   |  |
| <b>Contact Data</b>   |   |   | <b>Application Data</b>   |  |
| <b>Facility Contact</b>   | <b>Authorized Contact</b>   | <b>Technical Contact</b>  | <b>Application Number:</b> 1800184.10B<br><b>Date Received:</b> 06/29/2010<br><b>Application Type:</b> Renewal<br><b>Application Schedule:</b> TV-Renewal<br><b>Existing Permit Data</b><br><b>Existing Permit Number:</b> 04691/T21<br><b>Existing Permit Issue Date:</b> 02/01/2011<br><b>Existing Permit Expiration Date:</b> 03/31/2011 |  |
| Edward Sievers<br>Plant Manager<br>(828) 286-1356<br>P.O. Box 2029<br>Hickory, NC 28603   | Edward Sievers<br>Plant Manager<br>(828) 286-1356<br>P.O. Box 2029<br>Hickory, NC 28603 | Edward Sievers<br>Plant Manager<br>(828) 286-1356<br>P.O. Box 2029<br>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/T22<br><b>Permit Issue Date:</b><br><b>Permit Expiration Date:</b>   |   |  |

**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.

The purpose of this application is to renew the air permit.

**II. Application Chronology**

| Date                            | Description   |
|---------------------------------|---|
| June 26,<br>2010                | Complete renewal application received   |
| <del>February<br/>8, 2010</del> | <del>Public Notice posted on the NCDENR website. Public and concurrent EPA comment period begins.</del> |
| <del>March 10,<br/>2010</del>   | <del>Public comment period ends. No comments received.</del>  |
| <del>March 25,<br/>2010</del>   | <del>EPA comment period ends. No comments received.</del>   |

### III. Renewal Discussion

Since the permit was last renewed in 2006, it has been subject to EPA and public review a number of times, most recently prior to the issuance of permit no. T20 issued December 15, 2010. The reasons for the permit modifications are summarized in Section VII.. Permitting History.

During this renewal process minimal changes to the permit are necessary. The facility is a major source of VOC emissions only. Other criteria pollutant emissions are emitted from relatively small combustion sources (e.g., dryers for the printing and laminating operations). Permit T20 was issued with a VOC Plant wide Applicability Limit (PAL) pursuant to 2D.0530 and at that time the facility's operations were reviewed closely to develop the appropriate monitoring conditions.

The following are the permitted emission sources:

| Emission Source ID No.     | Emission Source Description   | Control Device ID No.         | Control Device Description   |
|----------------------------|---|-------------------------------|--|
| Press 12<br>VOC PAL        | 59 inches Wide Web Flexographic Press with ten printing stations and a natural gas-fired bake oven (2.4 million Btu per hour heat input capacity)       | CD1.1 and CD1.2<br>(optional) | natural gas-fired pilot burner (10 million Btu per hour heat input rate, catalytic fume oxidizer (manganese dioxide catalyst) with a heat exchanger  |
| Press 13<br>VOC PAL        | 59 inches Wide Web Flexographic Press with ten printing stations and a natural gas-fired bake oven (2.4 million Btu per hour heat input capacity)       |                               |  |
| Press 14<br>CAM<br>VOC PAL | 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) | CD1.1 and CD1.2<br>(optional) | natural gas-fired pilot burner (10 million Btu per hour heat input rate), catalytic fume oxidizer (manganese dioxide catalyst) with a heat exchanger |
| Laminator-5<br>VOC PAL     | Solventless Laminator   | NA                            | NA   |
| Laminator-14<br>VOC PAL    | Laminator, including a natural gas-fired dryer (1.0 million Btu per hour maximum heat input)  | NA                            | NA   |

The following are the insignificant activities at the facility:

| Emission Source ID              | Emission Source Description   |
|---------------------------------|---|
| IES-1 VOC PAL                   | Mixing Station  |
| IES-2, IES-3 & IES-4<br>VOC PAL | Three solvent storage tanks (4,000 gallon capacity, 4,000 gallon capacity, and 2,000 gallon capacity, respectively) |

### IV. Regulatory Review

#### 15A NCAC 2D.1100 CONTROL OF TOXIC AIR POLLUTANTS 15A NCAC 2Q .0711 EMISSION RATES REQUIRING A PERMIT

PPI emits Ethyl Acetate (141-78-6) above its respective TPER and has the following limits in the current air permit.

| <b>Emission Source ID No.</b> | <b>Emission Source description</b> | <b>Toxic Air Pollutant</b> | <b>Emission limit, pounds per hour</b> |
|-------------------------------|------------------------------------|----------------------------|--|
| Laminator-14                  | Laminator                          | Ethyl Acetate (141-78-6)   | 59.5                                   |
| Laminator-5                   | Solventless Laminator              |                            | 37.6                                   |

PPI performed a modeling demonstration for this TAP which was approved via a memo from the AQAB on June 24, 2008 (See application no. 1800184.08A permit review) and showed maximum impacts at 53% of the AAL guideline. Since worst case emission rates were assumed and the conservative SCREEN 3 model was utilized, no M/R/R was placed into the air permit.

A review of the 2009 emissions inventory (most recent year of approved data) show emissions of ethyl acetate to be 32594 lb/year. This is equivalent to 89 lb/day or 3.7 lb/hr. It appears the emissions of this TAP are well below its permitted emission limits. Given the expected margin of compliance no M/R/R will be added to the permit. The permit condition is correct as written.

Upon review of the potential emission estimates supplied with the most recent modification (permit no. T20 issued 12/15/2010) and included as an attachment to this review, all other NC TAPs are emitted well below their respective TPERs. No changes are necessary for the 2Q.0711 permit condition.

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

This regulation applies to all the sources. Given that PM emissions are only associated with the combustion of natural gas, which is inherently small, compliance is expected with this rule. The permittee is currently required to keep production records and make them available upon request to verify compliance. Given the expected margin of compliance this is adequate. No changes are necessary to the existing permit conditions.

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

This regulation applies to all the sources because of the combustion of natural gas which contains small amounts of sulfur. Compliance is expected with this rule. Given the expected margin of compliance no M/R/R is required. No changes are necessary to the existing permit conditions.

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

This regulation applies to all sources. The printing and laminating processes themselves are not expected to have visible emissions and the associated dryers typically have no visible emissions as they simply burn natural gas. Compliance is expected with this rule. Given the expected margin of compliance no M/R/R is required. No changes are necessary to the existing permit conditions.

#### **15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

The facility has a plant-wide applicability limit (PAL) for VOCs pursuant to the PSD rule. This allows PPI the flexibility to make modifications without considering PSD applicability with respect to VOCs as long as the PAL of 401 tpy is not exceeded. This was added to the permit in revision T20 which was issued on 12/15/2010 (less than 2 months ago) and has undergone public and EPA review. No changes are necessary to the existing permit conditions.

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

This regulation applies to operations (such as PPI) that handle VOC containing materials. The facility appears to have no compliance issues with respect to this regulation. Continued compliance is expected with this rule. No changes are necessary to the existing permit conditions.

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

This regulation applies to operations (such as PPI) that create odors as a result of their operations. The facility appears to have no compliance issues with respect to this regulation. Continued compliance is expected with this rule. No changes are necessary to the existing permit conditions.

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

### NSPS

The facility 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 source MACTs have been promulgated to date that are applicable to this facility.

### PSD

The facility is a PSD major source for VOCs and has PAL of 401 tpy (See Section IV above).with three PSD avoidance conditions. Catawba County is in non-attainment for PM<sub>2.5</sub>.

### CAM

The current permit has a condition for the Permittee to submit a CAM plan prior to operating the thermal oxidizer. On April 27, 2010 the DAQ issued an applicability determination stating:

*Your facility is subject to an annual VOC emissions caps utilizing the referenced control devices in conditions 2.1.A.3, and 2.1.B.3 for PSD Avoidance pursuant to 15 A NCAC 2Q.0317. VOCs are the only pollutants required to be controlled by the referenced control devices. These control devices are not used to comply with any emission limitations or standards for any other pollutants.*

*Therefore, 15A NCAC 2D .0614 "Compliance Assurance Monitoring" does not apply.*

Since then the PSD conditions have been removed and replaced with a VOC PAL (see Section IV. Above). Since the PAL is effectively an emissions cap meeting the same exemption that the PSD avoidance conditions meet, CAM still does not apply. This condition will be removed from the revised air permit.

## VI. Compliance Status

The facility was last inspected on April 29, 2010 by Jim Hafner of the regional office. In the inspection report Mr. Hafner summarizes:

“Based on my observations during this inspection, this facility appeared to be in compliance with the applicable air quality regulations.”

Since April 29, 2010, there has been no reported compliance issues associated with the subject facility.

## VII. Permit History

| Permit No. | Issuance Date     | Description (taken from permit reviews verbatim)   |
|------------|-------------------|--|
| T21        | February 1, 2010  | Plastics Packaging's (PP) was recently issued a PAL permit for VOC on 12/15/2010 with an effective date of 12/15/2010. PP is requesting that the effective date be changed to 01/01/2011 to facilitate the recordkeeping requirements. |
| T20        | December 15, 2010 | Plastics Packaging's (PP) current permit requires compliance with three PSD avoidance limits for VOCs. To simplify compliance, allow for operational flexibility and allow the facility to respond quickly to market changes, PP is    |

| Permit No. | Issuance Date    | Description (taken from permit reviews verbatim)  |
|------------|------------------|---|
|            |                  | requesting to obtain a single plant-wide applicability limitation (PAL) for VOCs as allowed under 15A NCAC 2D.0530 and 40CFR 51.666 "Prevention of significant deterioration of air quality."   |
| T19        | March 26, 2010   | <p><b>09A</b> – 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")]</p> <p><b>09B</b> - This application was submitted to satisfy the requirement in the cover letter of permit T17</p> <p><i>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.</i></p> <p>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 (<b>ID Nos. ES-8 and ES-10</b>) and the construction and operation of the Laminator (<b>ID No. ES-14</b>, previously, currently <b>ID No. Laminator-14</b>).</p> <p>The review for T16 will be included as an attachment to this review.</p> <p>Additionally, application <b>09B</b> was also appended to satisfy the requirement in the cover letter of permit T18</p> <p><i>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.</i></p> <p>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 (<b>ID Nos. Press 11</b>) and the construction and operation of its replacement Press 14 (<b>ID No. Press 14</b>).</p> |
| T18        | February 3, 2010 | This application was submitted to replace an existing press (press-11) with a new press (Press 14).   |
| T17        | December 8, 2008 | <p>This application was submitted to satisfy the following requirement in Permit No. T15 (and T16)</p> <p>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.</p>   |
| 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).  |

| Permit No. | Issuance Date  | Description (taken from permit reviews verbatim)  |
|------------|----------------|---|
|            |                | 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   |
| Permit page 1          | Same              | Updated revision no and dates, etc.   |
| Equipment List         | Same              | <ul style="list-style-type: none"> <li>Removed CAM applicability indicators</li> <li>Revised catalytic fume oxidizer description for clarity at the request of the regional office</li> </ul> |
| 2.1.A                  | Same              | <ul style="list-style-type: none"> <li>Revised catalytic fume oxidizer description for clarity at the request of the regional office</li> </ul>   |
| 2.1.B                  | Same              | <ul style="list-style-type: none"> <li>Revised catalytic fume oxidizer description for clarity at the request of the regional office</li> </ul>   |
| 2.2.A.1                | NA                | Remove CAM condition as it does not apply   |
| 2.2.B.1                | 2.2.A.1           | Simple renumbering – no other changes   |
| 2.2.C.1                | 2.2.B.1           | Simple renumbering – no other changes   |

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

See Chronology in Section II. No comments received.

### X. Recommendations

It is recommended that permit no. 04691T22 be issued.

Appendix A  
Facility-wide Emissions  
(FORM D1)

