

Facility Name: **Printpack, Inc.**
 City: Villa Rica
 County: Carroll
 AIRS #: 04-13-045-00039

Application #: TV-13125
 Date SIP Application Received: 5/29/01
 Date Title V Application Received: n/a
 Date of Draft Permit: July 23, 2002
 Permit Nos: 2759-045-0039-V-01-3

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Toxics	N/A	N/A

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached SIP permit to construct and/or draft/proposed operating permit amendment. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit amendment is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act Amendments of 1990. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Chapter I of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit amendment is to identify state and federal air requirements applicable to the modification/construction to be performed at Printpack Villa Rica and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit amendment and is presented in the same general order as the permit amendment. It initially describes the facility receiving the permit amendment, the applicable requirements and their significance, and the methods for determining compliance with those applicable requirements. This narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit amendment in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2759-045-0039-V-01-0	December 3, 1998	X	
2759-045-0039-V-01-1	May 13, 1999	X	
2759-045-0039-V-01-2	June 25, 2000	X	

Table 2: Comments on Specific Permits

Permit Number	Comments
2759-045-0039-V-01-0	Initial Title V operating permit issued for this facility.
2759-045-0039-V-01-1	Amendment to correct emission unit table in Section 3 and Condition No. 5.2.1 of initial Title V operating permit.
2759-045-0039-V-01-2	Amendment for construction of a permanent total enclosure around the post coat station for Laminator L035.

B. Regulatory Status

1. PSD/NSR

The existing Printpack facility at this site is currently a major source for purposes of PSD applicability. Current annual emissions of VOC are approximately 306 tons per year, and the allowable emissions of VOC are approximately 900 tons per year. However, in order to net out of permit review requirements under the federal PSD program and the State's BACT + Offset requirements for counties that contribute to the ambient ozone concentrations in the Atlanta Nonattainment Area, Printpack is proposing to reduce actual emissions from the existing plant to levels below the PSD major source threshold. Specifically, Printpack is proposing to enclose printing press operations, the ink room and the pan washing room at the existing facility within permanent total enclosures in order to improve capture of VOC emissions at the plant. The emissions will be routed to the existing abatement devices, which consist of tandem thermal oxidation systems. With the existing facility's VOC emissions capped at the requested level of 157 tons per year, this reduction will result in a creditable reduction for netting purposes of approximately 149 tons per year.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	Y			X
PM ₁₀	Y			X
SO ₂	Y			X
VOC	Y	X		
NO _x	Y			X
CO	Y			X
TRS	Y			X
H ₂ S	Y			X
Individual HAP	Y		X	
Total HAPs	Y		X	

II. Proposed Modification

A. Description of Modification

The proposed modification consists of two parts, which are represented by air quality permit application numbers 13125 and 13912.

The first part, application no. 13912, is the construction of a new converting facility to produce packaging materials, which will operate as a separate plant but will be located adjacent to the existing plant. Because the two plants are contiguous and adjacent, operate under the same general SIC grouping, and are under common control, the Division is treating the two facilities as a single site for purposes of Titles I, III and V under the 1990 Clean Air Act Amendments. The new converting facility will consist of six 10-color flexographic printing presses (Source Codes P01 – P06) and four extruder/laminators (Source Codes L031 – L034), six solvent storage tanks, one manual and one automatic parts washer with associated solvent recovery distillation system, and one photopolymer plate making system with solvent recovery still. The presses, photopolymer plate making operations and parts washers will be located within permanent total enclosures, and emissions will be abated through the use of two regenerative thermal oxidizers. Printpack is requesting a VOC emissions cap of 162 tons per year for the new converting facility.

Part two of the request, application number 13125, is a proposal to construct permanent total enclosures around the press operations, the ink room, and the pan washing room at the existing manufacturing

facility located at this Part 70 site in order to reduce emissions. Emissions from these sources are already being abated by a tandem thermal oxidation system, but this modification will improve the capture efficiency significantly, reducing actual emissions by approximately 149 tons per year. The resulting emissions reduction will be used as a creditable reduction for the construction of an adjacent converting facility. Current capture systems in use at the facility achieve efficiencies between 75 and 100 percent, according to the most recent performance tests. The permanent total enclosures proposed by Printpack will achieve 100 percent capture of the emissions from all of these sources. Printpack is requesting a new plant-wide VOC emissions cap for the existing facility of 157 tons per year.

Due to the separate administrative structure of the two facilities, Printpack has requested that each plant operate under its own permit. Thus, this modification request will be handled as two permitting actions:

- An amendment to the current Title V operating permit for the existing plant in order to authorize construction of the permanent total enclosures and to make permanent and enforceable the proposed reduction in actual emissions to be used as creditable reductions for the construction of the new plant; and
- A construction permit issued for the construction of the new converting facility. A Title V operating permit for the new facility will be issued upon receipt and review of a Title V operating permit application. Submittal of the Title V operating permit application will be required within 60 days of the issuance of the construction permit.

This permit narrative concerns the amendment to the current Title V operating permit for the existing plant on this site. Refer to the permit narrative for air quality permit Application No. 13912 for additional details on the construction of the new converting facility.

B. Emissions Change

The improved capture system is expected to produce a reduction in actual emissions from the existing plant of approximately 149.4 tons per year of VOC, and the new converting facility may emit as much as 162 tons per year of VOC. Thus, the net actual emissions increase over the current actual emissions equals 12.9 tons per year, although this is based on future allowable emissions minus current actual emissions. The net actual emissions increase may actually be less than this amount or negative in nature. The net potential emissions increase for VOC is -580.7 tons per year, which reflects the decrease in facility-wide potential from the current level of 899.7 tons per year to a combined total of 319 tons per year for the existing facility and the new converting facility together.

Slight increases in NO_x and CO emissions from the thermal oxidation system are expected. No increase in any other criteria pollutants is expected to occur.

The current facility has limits on its HAP emissions at the major source threshold of 10 tons per year for emissions of any individual HAP and 25 tons per year for any combination of HAPs; these limits were imposed at the request of the facility in order to avoid applicability under the Printing and Publishing NESHAP (40 CFR 63 Subpart KK). Because the two facilities will comprise one site under Title III of the 1990 Clean Air Act Amendments, these HAP limits will be split evenly between the two plants so that site-wide HAP emissions will remain below the major source thresholds.

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	Y	N/A	N/A
PM ₁₀	Y	N/A	N/A
SO ₂	Y	N/A	N/A
VOC	Y	12.9 ¹	(580.7) ²
NO _x	Y	8.4	8.4
CO	Y	7.1	7.1
TRS	Y	N/A	N/A
H ₂ S	Y	N/A	N/A
Individual HAP	Y	N/A	N/A
Total HAPs	Y	N/A	N/A

1. This value represents a reduction in actual emissions from the existing operations of 149.4 tons per year and an increase in potential emissions of 162 tons per year from the new converting facility.
2. Negative value because current plant-wide allowable emissions of VOC are 899.7 tons per year. Future plant-wide allowable emissions for both facilities combined will be 319 tons per year.

C. PSD/NSR Applicability

Because the existing facility has the potential to emit more than 250 tons per year of VOC, this modification is subject to PSD review if the net emissions increase (future potential minus current actual emissions) from the modification exceeds 40 tons per year. Although VOC emissions from the modification itself will exceed 40 tons per year, the facility is able to avoid review under the PSD program due to the concept of “netting” emissions reductions. Because actual and allowable emissions from the existing operations will be significantly reduced, and because the potential (allowable) emissions from the modification will be capped at 162 tons per year, the net emissions increase due to both of these modifications is less than 40 tons per year. In fact, the net emissions increase in potential emissions is only about 13 tons higher than current actual emissions. The increases in NO_x and CO emissions resulting from the modification are not significant for purposes of PSD applicability.

Because the existing facility has the potential to emit more than 100 tons per year of VOC, this modification is subject to review under the State’s BACT + offsets permitting requirements for major sources in areas that contribute to the ground level ozone concentration in the Atlanta Nonattainment Area. However, the applicability threshold for facility modifications under the BACT + offset provisions are the same as those under PSD, i.e., the net emissions increase in VOC would have to exceed 40 tons per year. As indicated above, the net emissions increase resulting from this modification is actually only 13 tons per year, and the State’s BACT + Offsets permitting requirements are not triggered.

Netting Demonstration for PSD and State BACT + Offset Requirements:

Historical actual emissions from the existing plant are indicated in the table below on a monthly basis. The third column indicates the rolling total VOC emissions for each consecutive 12 month period over the last 24 months preceding the permit application.

Month	VOC (tons)	Rolling 12 Month VOC (tons)
Oct 99	41.98	
Nov 99	25.88	
Dec 99	21.64	
Jan 00	22.05	
Feb 00	16.98	
Mar 00	23.00	
Apr 00	20.69	
May 00	23.67	
June 00	16.89	
July 00	20.85	
Aug 00	27.41	
Sep 00	26.21	287.3
Oct 00	28.09	273.4
Nov 00	22.21	269.7
Dec 00	24.24	272.3
Jan 01	28.05	278.3
Feb 01	29.12	290.4
Mar 01	29.52	297.0
Apr 01	32.37	308.6
May 01	33.64	318.6
Jun 01	3.91	335.6
Jul 01	33.91	348.7
Aug 01	29.31	350.6
Sep 01	23.94	348.3
Totals	635.6	3979
Average Values	26.48	306.1

As indicated in the table above, the baseline actual annual emissions, for the 24 month period preceding the permit application, are 306.1 tons per year. For purposes of netting out of permit review under the federal PSD and State BACT + Offset requirements, the following equation must be satisfied:

$$(\text{Future Potential/Allowable}) - (\text{Current Actual}) +/- (\text{Contemporaneous Increases/Decreases}) < 40 \text{ tpy}$$

In this case, future potential emissions are 319 tons per year, so inserting terms in the expression above yields the following result:

$$319 \text{ tpy} - 306.1 \text{ tpy} = 12.9 \text{ tpy} < 40 \text{ tpy}$$

The emissions reduction from the improved capture system on existing process equipment meets all the criteria for creditable reductions:

- The reduction is permanent;
- The reduction is from the same PSD site, i.e., the reductions are “internal;”
- The reduction is enforceable (through conditions in the Title V operating permit amendment);
- The reduction is surplus (it is not required for compliance with any existing emission standards);
- The reduction is contemporaneous with the modification being proposed.

There are no other creditable, contemporaneous emission increases or decreases to consider in the netting calculation.

III. Facility Wide Requirements

A. Emission and Operating Caps:

Facility-wide VOC emissions from all operations at the existing plant will be limited to 157 tons per year under a new condition in Section 2.0 of the permit, pursuant to the request of the applicant. This limit is necessary in order to produce the creditable reduction needed by the construction of the new facility to avoid PSD review.

Facility-wide HAP emissions from all operations at the existing plant will be limited to 5 tons per year for any individual HAP and 12.5 tons per year for any combination of HAPs. Condition 2.1.1 of the Title V permit currently limits these emissions to 10 and 25 tons per year, respectively. Because the existing plant and the new converting facility will be considered one site for purposes of MACT standard applicability under Title III of the 1990 CAAA, and because the two facilities will be operating under separate operating permits, it is necessary to split the current HAP emission limits between the two plants. Printpack has opted to split the limits evenly between the two facilities.

B. Applicable Rules and Regulations:

N/A.

C. Compliance Status:

The facility is currently operating in compliance with all applicable emission standards and terms and conditions of the existing Title V operating permit. No non-compliance issues exist.

D. Operational Flexibility:

Additional operational flexibility has not been requested by the applicant.

E. Permit Conditions:

Condition 2.1.1 will be revised such that the HAP emission limits for the existing plant will be reduced by half. The permit for the adjacent converting facility will contain an identical HAP limit, such that the sum of all HAP emissions from both facilities will remain below the major source threshold.

Condition 2.1.2 will be added to the permit in order to make permanent and enforceable the 149 ton per year creditable emission reduction requested by the applicant. Facility-wide VOC emissions from the existing plant will be limited to 157 tons per year under the limit in this condition.

IV. Regulated Equipment Requirements

A. Brief Process Description:

This modification consists of two parts. The first part entails the construction of a new converting facility to produce flexible packaging material that will consist of 6 new 10-color flexographic presses, 4 laminator/extruders, 6 dryers, 6 storage tanks, one photopolymer plate operation, one manual and one automatic parts washer, and associated control devices, which include solvent recovery stills and two regenerative thermal oxidizers. Refer to the permit narrative for air quality permit application number 13912 for further details on the construction of the new converting facility.

The second part of the modification consists of the construction of one or more permanent total enclosures around various operations at the existing flexible packaging facility, including the press operations, the ink room and the parts washing operations. Capture of these emissions, which are already being abated by a tandem thermal oxidation system, will be dramatically improved (from 75 to 85 percent efficiency to 100 percent efficiency), resulting in a creditable emissions reduction of 149.4 tons per year.

B. Equipment List for the Process:

No new equipment is being added to the existing facility covered by this Title V operating permit. Permanent total enclosures are being constructed around numerous equipment/operations at the existing plant in order to improve capture efficiency and generate creditable emission reductions. The affected emission sources include:

- 8-color flexographic printing presses P002- P009
- The ink-mixing room
- The pan washing room

Emissions from these sources are currently being abated by the existing regenerative thermal oxidizers RT01 and RT02, which operate in tandem with each other.

C. Equipment & Rule Applicability:

Emission and Operating Caps –

The current Title V operating permit contains three PSD avoidance limits in Condition Numbers 3.3.1, 3.3.2, and 3.3.3, which will be superseded by the new plant-wide VOC emission limit of 162 tons per year and will be deleted from this Title V operating permit.

The first limit in Condition No. 3.3.1 caps VOC emissions from flexographic presses P002 and P003, laminator L031, and manual parts washer PW01 to less than 574.7 tons per any 12 consecutive month period. Because facility-wide allowable VOC emissions will be reduced to

less than the PSD major source threshold of 250 tons per year, this avoidance limit is obsolete and will be deleted from the operating permit. Compliance with the new plant-wide VOC emission cap of 162 tons per year will ensure future compliance with this limit.

The second PSD avoidance limit in Condition No. 3.3.2 caps VOC emissions from flexographic presses P004, P005, P007, P008, P009, laminators L033 and L035, and automatic parts washer PW02, combined, to less than 325 tons per any 12 consecutive month period. Because facility-wide allowable VOC emissions will be reduced to less than the PSD major source threshold of 250 tons per year, this avoidance limit is obsolete and will be deleted from the operating permit. Compliance with the new plant-wide VOC emission cap of 162 tons per year will ensure future compliance with this limit.

The third PSD avoidance limit in Condition No. 3.3.3 caps VOC emissions from laminators L033 and L035 to less than 39 tons per any 12 consecutive month period. This limit will not be superceded by the new plant-wide emission limit, i.e., these two laminators may be capable of emitting VOC emissions in excess of 39 tons per year while still complying with the overall VOC emissions cap of 162 tons per year. However, pursuant to longstanding EPA policy memos on the PSD/NSR permitting programs, sources that limit emissions below the PSD major source threshold and become PSD synthetic minor sources may drop any existing PSD avoidance limits on individual equipment. The new plant-wide VOC emissions limit of 162 tons per year being imposed on this facility with this permitting action qualifies it for synthetic minor status and allows the omission of older PSD avoidance limits.

Applicable Rules and Regulations -

No changes in applicable rules and regulations will be triggered as a result of this permit amendment.

D. Compliance Status:

The facility is currently being operating in full compliance with all applicable requirements and all terms and conditions of the Title V operating permit. No non-compliance issues exist.

E. Operational Flexibility:

Not applicable. No operational flexibility was requested by the applicant.

F. Permit Conditions:

Condition No. 3.3.1 will be deleted from the operating permit; it is being superceded by the new plant-wide VOC emissions limit contained in new Condition No. 2.1.2.

Condition No. 3.3.2 will be deleted from the operating permit; it is being superceded by the new plant-wide VOC emissions limit contained in new Condition No. 2.1.2.

Condition No. 3.3.3 will be deleted from the operating permit; it is being superceded by the new plant-wide VOC emissions limit contained in new Condition No. 2.1.2.

Condition No. 3.3.6 will be revised to require 100 percent capture from presses P002 through P007, the ink room and the pan washing room.

V. Testing Requirements (with Associated Record Keeping and Reporting)**A. Individual Equipment:**

Condition No. 4.2.3 will be added to require the testing of the capture systems on presses P002 through P007 and the ink and pan washing rooms within 3 months of the construction of the permanent total enclosures for these sources.

Condition 4.2.4 will be added to require a new performance test on the regenerative thermal oxidizers RT01 and RT02, once the new capture systems have been installed and tested. This performance test is necessary in order to demonstrate that the oxidizer performance is not degraded by the additional loading resulting from improved capture on the presses and ink and pan washing rooms.

B. Equipment Groups (all subject to the same test requirements): N/A.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

- A. Individual Equipment: N/A. No changes in existing monitoring requirements are necessary as a result of this modification. Sufficient monitoring conditions already exist to demonstrate proper operation and maintenance of the thermal oxidizers.
- B. Equipment Groups (all subject to the same monitoring requirements): N/A.

VII. Other Record Keeping and Reporting Requirements

Condition No. 6.2.2 will be revised to require submittal of reports if the emissions of HAPs for any calendar month exceed one twelfth the value of the annual plant-wide emission limits for HAPs contained in Condition No. 2.1.1.

Condition No. 6.2.3 will be revised to replace references to the emission limits in Condition Nos. 3.3.1, 3.3.2, and 3.3.3 with a reference to the new plant-wide emission limit contained in new Condition No. 2.1.2. A report will be submitted if the emissions of VOC for any given calendar month exceed one twelfth the value of the annual emission limit contained in Condition No. 2.1.2.

Condition No. 6.2.5 will be added to require the submittal of detailed as-built construction plans for the design and installation of the permanent total enclosures on Presses P002 through P007, the ink room, and the pan washing room. This condition will also include a reporting requirement to notify the Division when the permanent total enclosures have been installed.

VIII. Specific Requirements

Discuss any of the following specific requirements as they apply to the modification.

- A. Operational Flexibility
 - Not applicable.
- B. Alternative Requirements
 - Not applicable.
- C. Insignificant Activities
 - Not applicable.
- D. Temporary Sources
 - Not applicable.
- E. Short-Term Activities
 - Not applicable.
- F. Compliance Schedule/Progress Reports
 - Not applicable.
- G. Emissions Trading
 - Not applicable.
- H. Acid Rain Requirements
 - Not applicable.
- I. Prevention of Accidental Releases
 - Not applicable.
- J. Stratospheric Ozone Protection Requirements
 - Not applicable.
- K. Pollution Prevention

- Not applicable.

L. Specific Conditions

- Not applicable.

Addendum to Narrative

The public notice for the significant Title V permit amendment per Application No. TV-13125 was published in The Times-Georgian on August 13, 2002. The public comment period expired on September 12, 2002. There were no comments from the public nor the facility. Therefore, a final letter for the Assistant Director's signature will be prepared to finalize Permit Amendment No. 2759-045-0039-V-01-3.