

## Air Permit Review

**Permit Issue Date:**

**Region:** Winston-Salem Regional Office  
**County:** Rockingham  
**NC Facility ID:** 7900138  
**Inspector's Name:** Ray Stewart  
**Date of Last Inspection:** 06/01/2005  
**Compliance Code:** 3/In Compliance - Inspection

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<b>Applicant (Facility's Name):</b> Loparex, Inc.  <b>Facility Address:</b> Loparex, Inc. 816 Fieldcrest Road Eden, NC 27288  <b>SIC:</b> 2672 / Paper Coated And Laminated, Nec <b>NAICS:</b> 322222 / Coated and Laminated Paper 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> 2D .0505, .0516, .0521, .0958 <b>NSPS:</b> 60-Subpart RR, 60-Subpart Kb <b>NESHAP:</b> 63-Subpart JJJJ, 63-Subpart EEEE <b>PSD:</b> No <b>PSD Avoidance:</b> Yes <b>NC Toxics:</b> 2D .1111, 2Q .0700 <b>112(r):</b> No <b>Other:</b> Odors (2D .1806)
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 7900138.05A <b>Date Received:</b> 06/30/2005 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 08031/T05 <b>Existing Permit Issue Date:</b> 12/13/2002 <b>Existing Permit Expiration Date:</b> 03/31/2006
Michael Stang Operations Manager (336) 627-6464 816 Fieldcrest Road Eden NC, 27288	Michael Stang Operations Manager (336) 627-6464 816 Fieldcrest Road Eden NC, 27288	Michael Stang Operations Manager (336) 627-6464 816 Fieldcrest Road Eden NC, 27288	
<b>Review Engineer:</b> Fern Paterson  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____		<b>Comments / Recommendations:</b> Issue 08031/T06 <b>Permit Issue Date:</b> _____ <b>Permit Expiration Date:</b> _____	

**I. Introduction:**

The Loparex, Incorporated (Loparex) facility located in Eden, North Carolina currently holds Title V Permit No. 08031T05 with an expiration date of March 31, 2006. The application to renew the existing Title V air quality permit (Application No. 7900138.05A) was received by the Division of Air Quality's Winston-Salem Regional Office (WSRO) on June 30, 2005. This Title V permit renewal will be issued as Permit No. 08031T06.

**II. Proposed changes in Application No. 0900055.05A:**

As part of the Title V permit renewal application, Loparex has requested various changes be made to the Title V permit during the permit renewal process, as listed below:

- Remove two printing presses (**Source ID Nos. ES-50 and ES-51**) and associated Corona treater (**Source ID No. ES-52**) from the permit. The equipment is no longer functioning and Loparex is planning to remove the equipment from the facility.
- Include Mix Booth, Flood Booth, and Chemical Storage Room, which are potential sources of fugitive VOC emissions, in the permit.

*(NOTE: The Mix Booth (ID Nos. ES-14 and ES-25) and the Chemical Storage Room (ID No. ES-14) are already included in the permit. The Flood Booth is currently included in the insignificant activity list under the description "Sample Booth" (ID No. ES-13).*

**III. Changes to Existing Title V Air Permit No. 08031T05:**

Old Page No.	New Page No.	Condition No.	Changes
Cover Letter, Attachment	Cover Letter, Attachment	Insignificant Activity List	Update the insignificant activities list as follows: <ul style="list-style-type: none"> <li>Remove the Sample Booth (<b>ID No. ES-13</b>), which will be included in the permit as an emission source with the source description “Flood Testing Booth”.</li> <li>Remove Corona Treatment System (<b>ID No. ES-52</b>) from the permit per Permittee request.</li> <li>Include “I” designation in front of remaining insignificant activities to indicate insignificant status.</li> </ul>
Pages 3-5	Pages 3-4	Section 1., Table	<ul style="list-style-type: none"> <li>Add references to MACT-affected sources where appropriate.</li> <li>Indicate which material is stored in each of the three storage tanks.</li> <li>Remove printing presses (<b>ID Nos. ES-50 and ES-51</b>) from the permit per Permittee Request.</li> <li>Move fugitive sources of VOC to a separate section, including the Flood Testing Booth (<b>ID No ES-13</b>) that was previously included in the insignificant activities list.</li> </ul>
Pages 5-6	Page 5	Section 2.1 A., Table 2.1 A.	<ul style="list-style-type: none"> <li>Change reference of 15A NCAC 2D .0530 (PSD) to 15A NCAC 2Q .0317 (PSD Avoidance).</li> <li>Remove reference to 15A NCAC 2D .1111 exemption (63, Subpart KK), which is no longer required as printing presses have been removed.</li> <li>Add reference to 15A NCAC 2D .1111 applicability (63, Subpart JJJ).</li> </ul>
Page 7	Page 6	Section 2.1 A. 3. c.	<ul style="list-style-type: none"> <li>Remove language regarding the requirement to establish “normal” visible emission for the affected sources.</li> <li>Add option to take corrective action in the event of observing visible emissions above “normal”.</li> <li>Reword/reorganize condition for clarity.</li> </ul>
Page 7	Page 6	Section 2.1 A. 3. d.	Add compliance statement to the recordkeeping requirement.
Page 7	Pages 6-7	Section 2.1 B., Source Description	Remove references to the Mix Rooms ( <b>ID Nos. ES-12 and ES-25</b> ), which have been moved to “Section D – Fugitive VOC Sources”.
Pages 7-8	Pages 7	Section 2.1 B., Table 2.1 B.	<ul style="list-style-type: none"> <li>Change reference of 15A NCAC 2D .0530 (PSD) to 15A NCAC 2Q .0317 (PSD Avoidance).</li> <li>Remove reference to 15A NCAC 2D .1111 exemption (63, Subpart KK), which is no longer required as printing presses have been removed.</li> <li>Add reference to 15A NCAC 2D .1111 applicability (63, Subpart JJJ).</li> </ul>
Page 9	Page 8	Section 2.1 B. 3. c.	<ul style="list-style-type: none"> <li>Remove language regarding the requirement to establish “normal” visible emission for the affected sources.</li> <li>Add option to take corrective action in the event of observing visible emissions above “normal”.</li> <li>Reword/reorganize condition for clarity.</li> </ul>
Page 9	Page 8	Section 2.1 B. 3. d.	Add compliance statement to the recordkeeping requirement.
Pages 9-12	Pages 9-11	Section 2.1 B. 4.	Revise NSPS Section as follows: <ul style="list-style-type: none"> <li>Reorganize section for permit clarity and consistency.</li> <li>Revise testing conditions to indicate that initial performance testing has been completed for the existing thermal oxidizer (<b>ID No. CD-01</b>), and initial testing shall be required for the Line No. 2 thermal oxidizer (<b>ID No. CD-04</b>) upon startup.</li> </ul>

Old Page No.	New Page No.	Condition No.	Changes
			<ul style="list-style-type: none"> <li>• Add notification requirements pursuant to 40 CFR 60.7.</li> <li>• Revise compliance procedures to reflect Loparex operations (i.e., remove solvent recovery procedures, improve detail for solvent destruction procedures, etc.)</li> <li>• Revise monitoring procedures to reflect Loparex operations (i.e., remove 60.440(b) recordkeeping requirement, remove catalytic incineration requirements.)</li> <li>• Combine existing periodic monitoring reporting requirements (i.e., quarterly and semiannual reports) into a single, semiannual report.</li> </ul>
Page 12	Page 11	Section 2.1 C., Source Description	Revise description of tank ES-30 to indicate “heptane” storage, vs. “naphtha” storage, to be consistent with permit renewal application.
Page 12	Pages 11-12	Section 2.1 C., Table 2.1 C.	<ul style="list-style-type: none"> <li>• Add reference to 15A NCAC 2D .1111, “OLD MACT” applicability.</li> <li>• Change reference of 15A NCAC 2D .0530 (PSD) to 15A NCAC 2Q .0317 (PSD Avoidance).</li> <li>• Add facility-wide VOC work practice standards per 15A NCAC 2D .0958.</li> <li>• Add facility-wide odor standards per 15A NCAC 2D .1806.</li> <li>• Change toluene/xylene rows to indicate that requirements are provided in Section 2.2.</li> <li>• Remove reference to 15A NCAC 2D .1111 exemption (63, Subpart KK), which is no longer required as printing presses have been removed.</li> </ul>
Page 13	Page 12	Section 2.1 C. 2.	Remove 2D .1100 requirement (which is included in Section 2.2 of the permit) and add the 2D .1111 (63-Subpart EEEE) requirement.
Pages 13-17	N/A	N/A	Remove former Section 2.1 D, including the printing press ( <b>ID Nos. ES-50 and ES-51</b> ), which has been permanently removed from service.
N/A	Pages 12-13	Section 2.1 D. <i>(New Permit Section)</i>	Add new permit section for miscellaneous fugitive VOC emissions sources, including the Silicone Coating Line Mix Rooms ( <b>ID Nos. ES-12 and ES-25</b> ), the Flood Testing Booth ( <b>ID No. ES-13</b> ), and the Chemical Storage Room ( <b>ID No. ES-14</b> ).
N/A	Page 13	Section 2.2 A. <i>(New Permit Section)</i>	Add permit section regarding MACT applicability (40 CFR 63, Subpart JJJJ – Paper and Other Web Coating), including compliance options and testing and notification requirements.
Page 17	Page 14	Section 2.2 B.1 b.	<ul style="list-style-type: none"> <li>• Add additional language to clarify recordkeeping requirement.</li> <li>• Add compliance statement to the recordkeeping requirement.</li> </ul>
Page 17	Page 14	Section 2.2 B.1 d.	<ul style="list-style-type: none"> <li>• Add additional language to clarify recordkeeping requirement.</li> <li>• Add more detail to recordkeeping requirement and add compliance statement.</li> </ul>
Page 18	Page 14	Section 2.2 B.1 f.	<ul style="list-style-type: none"> <li>• Reduce the periodic reporting requirement from quarterly to semiannual.</li> <li>• Add additional detail to the report content requirements.</li> </ul>
Page 17	Page 16	Section 2.2 D.	Move odor requirements (15A NCAC 2D .1806) to be at the end of the permit with other “state-only” requirements.
Page 19	Page 16	Section 2.2 E.2	Specify that the hourly coating application rate (i.e., 1,080 lb/hr) is based on a 24-basis.

Old Page No.	New Page No.	Condition No.	Changes
N/A	Page 16	Section 2.2 E.3 <i>(New Requirement)</i>	Add Monitoring/Recordkeeping requirement to require a daily record of the average hourly silicone coating application rate.
Pages 19-20	Page 17	Section 2.2 E.4	<ul style="list-style-type: none"> <li>Reduce the periodic reporting requirement from quarterly to semiannual.</li> <li>Revise report content requirements – removing the requirement to include the hourly application rate and adding the requirement to include any exceedance of the limitations.</li> </ul>
Pages 20-29	Pages 17-26	General Conditions	Added most current version of “General Conditions Section” to permit
Pages 30-32	N/A	Part II Construction Permit	Remove entire section.

**IV. Facility Description:**

Loparex manufactures release liners (i.e., silicone-coated papers). The facility, formerly known as Rexam Release, Inc., began operation on May 1, 1996. It is permitted to operate two silicone-coating lines, but upon receipt of this Title V permit renewal, only one of the coating lines had been constructed. The facility is also permitted to operate an extrusion laminating line, three 12,000-gallon horizontal storage tanks, various fugitive VOC emission sources, including a Mix Booth, Flood Booth, and Chemical Storage Room, and miscellaneous insignificant activities. The facility typically operates twenty-four (24) hours per day, seven (7) days per week, and fifty-one (51) weeks per year.

Loparex has accepted the following facility-wide emissions limitations:

- Facility-wide volatile organic compound (VOC) emissions shall not exceed 250 tons per year (tpy).  
*Regulatory Basis – PSD Avoidance pursuant to 15A NCAC 2D .0317*
- **State-enforceable, only**  
Facility-wide toluene emissions shall not exceed 532.0 pounds per day (lb/day).  
Facility-wide toluene emissions shall not exceed 22.16 pounds per hour (lb/hr).  
Facility-wide xylene emissions shall not exceed 235.2 lb/day.  
Facility-wide xylene emissions shall not exceed 9.76 lb/hr.  
*Regulatory Basis – Toxic Air Pollutants (TAPs) Compliance Demonstration pursuant to 15A NCAC 2D .1100*
- **State-enforceable, only**  
Facility-wide benzene emissions shall not exceed 8.1 pounds per year (lb/yr).  
Facility-wide n-hexane emissions shall not exceed 23 lb/day.  
*Regulatory Basis – Toxic Permitting Emission Rates (TPER) pursuant to 15A NCAC 2Q .0711*

Based on the emission limitations, as provided above, the facility is a PSD minor source as provided in 40 CFR Part 52 and 15A NCAC 2D .0530. The facility is also a major source of HAPs, with permitted emission rates exceeding 10 tpy for individual HAPs (i.e., toluene and xylene) and 25 tpy combined HAPs.

**V. Statement of Compliance:**

The DAQ has reviewed the compliance status of this facility. On its latest inspection, conducted on November 30, 2004 by Mr. Ray Stewart of the Winston-Salem Regional Office (WSRO), the facility was found to be in compliance with all applicable requirements as provided in Air Quality Permit No. 08031T05. The Permittee also certified that the facility will be in compliance with any applicable requirements taking effect during the term of the permit and will meet such requirements on a timely basis. A review of all applicable requirements is provided in this Permit Review.

**VI. Permitted Emissions Sources and Associated Air Pollution Control Devices:**

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
<b>One Extrusion Laminating Line (ELL-01) consisting of the following equipment:</b>			
ES-02, ES-05, and ES-07	Three (3) Corona treaters	CD-02A, CD-02B, and CD-02C	Three (3) ozone destruction systems
ES-03, and ES-06 MACT-JJJJ	Two (2) extrusion laminators	None	None
ES-01, and ES-04 MACT-JJJJ	Two (2) floatation dryers firing natural gas with a maximum heat input rate of 1.5 MMBtu/hr each	None	None
<b>Silicone Coating Line No. 1 (SCL-01) consisting of the following equipment:</b>			
ES-08	One (1) silicone Corona treater No. 1	CD-05 -and- CD-01	One (1) ozone destruction systems -and- Recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr
ES-11 NSPS-RR MACT-JJJJ	Silicone dryer (zones 1 & 2) firing natural gas with a maximum heat input rate of 8.5 MMBtu/hr	None -or- CD-01	None -or- Recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr
ES-09 NSPS-RR MACT-JJJJ	Silicone dryer (zones 3 & 4) firing natural gas with a maximum heat input rate of 7.0 MMBtu/hr	None	None
<b>Silicone Coating Line No. 2 (SCL-02) consisting of the following equipment:</b>			
ES-21	One (1) silicone Corona treater No. 2	CD-06 -and- CD-04	One (1) ozone destruction systems -and- Recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr
ES-24 NSPS-RR MACT-JJJJ	Silicone dryer (zones 1 & 2) firing natural gas with a maximum heat input rate of 8.5 MMBtu/hr	None -or- CD-04	None -or- Recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr
ES-22 NSPS-RR MACT-JJJJ	Silicone dryer (zones 3 & 4) firing natural gas with a maximum heat input rate of 7.0 MMBtu/hr	None	None

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
<b>Storage Tanks:</b>			
ES-29 NSPS-Kb MACT-EEEE	12,000 gallon aboveground horizontal fixed roof toluene storage tank	None	None
ES-30 NSPS-Kb	12,000 gallon aboveground horizontal fixed roof heptane storage tank	None	None
ES-31 NSPS-Kb	12,000 gallon aboveground horizontal fixed roof isopropyl alcohol storage tank	None	None
<b>Miscellaneous Sources:</b>			
ES-12	Mix Room No. 1	None	None
ES-13	Flood Testing Booth	None	None
ES-14	Chemical Storage Room	None	None
ES-25	Mix Room No. 2	None	None

**VII. Emission Source-by-Source Evaluation:**

**A. One Extrusion Laminating Line (ELL-01) consisting of the following equipment:**

**Three (3) Corona treaters (ID Nos. ES-02, ES-05, and ES-07), controlled by three (3) ozone destruction systems (ID Nos. CD-02A, CD-02B, and CD-02C, respectively);**

**Two (2) extrusion laminators (ID Nos. ES-03 and ES-06); and,**

**Two (2) floatation dryers, each natural gas-fired with a maximum heat input rate of 1.5 MMBtu/hr (ID Nos. ES-01 and ES-04).**

- Description – The Extrusion Laminator process includes Corona treaters, through which the paper is passed through an electric arc that raises the fibers of the paper in preparation for coating, two extrusion laminators, and two floatation dryers.<sup>1</sup> The Corona treaters, which are only utilized when polyethylene is applied to paper, are a potential source of ozone emissions. All exhaust from these treaters is routed to ozone destruct systems that use a passive bed of manganese dioxide catalyst to reduce ozone emissions. Potential facility-wide ozone emissions are less than 50 lb/yr with the use of the ozone destruct systems.
- 15A NCAC 2D .0515, “Particulates from Miscellaneous Industrial Processes” - The allowable emission rate for particulate matter (PM) from any stack, vent, or outlet of any industrial process for which no other emissions control standards are applicable shall not exceed the level calculated with the following equation for process weights less than or equal to 30 tons per hour (tons/hr):

$$E = 4.10(P)^{0.67}$$

where: E = allowable emission rate for PM (in lb/hr), and  
P = process weight in tons per hour (tons/hr).

Assuming a process weight rate at the extrusion laminating line of 1 ton/hour (including natural gas, paper, coating, and resin input), the allowable PM emission rate would be 4.10 lb/hr.

<sup>1</sup> Each floatation dryer is immediately downstream of a primary coater, which is used to apply a primer prior to the application of polyethylene to paper. All emissions from the primary coaters are associated with the floatation dryer.

The most significant source of PM emissions associated with extrusion laminating line is from the combustion of natural gas in the two floatation dryers, each of which includes a natural-gas fired heater with a maximum heat input rate of 1.5 million British thermal units (MMBtu/hr). Potential PM emissions from the extrusion laminating line are well below the allowable emission rate, as shown below:

$$\left( \frac{1.5 \text{ MMBtu}}{\text{hr}} + \frac{1.5 \text{ MMBtu}}{\text{hr}} \right) * \left( \frac{\text{MMscf}}{1,020 \text{ MMBtu}} \right) * \left( \frac{7.6 \text{ lbPM}}{\text{MMscf}} \right) = 0.02 \text{ lbPM/yr}$$

Due to the extremely low potential PM emissions from the extrusion laminating process, the DAQ expects compliance this emission limitation.

3. 15A NCAC 2D .0516 – Sulfur Dioxide Emissions From Combustion Sources – This regulation limits SO<sub>2</sub> emissions to no greater than 2.3 lb/MMBtu of heat input for combustion sources that are unaffected by SO<sub>2</sub> limits in other state or Federal regulations. The combustion-emissions from the floatation dryers, which both include a natural-gas fired heater with a maximum heat input rate of 1.5 MMBtu/hr, are affected by this rule.

Because natural gas is an inherently low sulfur emitting fuel, the DAQ does not require monitoring, recordkeeping, or reporting to demonstrate compliance with this emission limitation for combustion sources that are only permitted to combust natural gas.

4. 15A NCAC 2D .0521 – Control of Visible Emissions – Visible emission (VE) standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet for which no other emission control standards are applicable. For emission sources with an initial startup date after July 1, 1971, this regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour not more than four times in any 24-hour period.

The permit will require visible emissions observations of the affected exhaust points (i.e., all exhaust points associated with the extrusion laminating line) at least once every six (6) months to check for visible emissions above “normal”. “Normal” emissions should have been established and documented within 30 days of issuance of the initial Title V permit. The results of all required observations, along with any corrective actions taken to reduce visible emissions, shall be recorded in a logbook.

5. 15A NCAC 2D .1111- Maximum Achievable Control Technology; 40 CFR 63, Subpart JJJJ. See “Multiple Sources”, Section VIII.
6. 15A NCAC 2Q .0317 – Avoidance Conditions for 15A NCAC 2D. 0530: Prevention of Significant Deterioration. See “Multiple Sources”, Section VIII.
7. 15A NCAC 2D .0958 – Work Practices for Sources of Volatile Organic Compounds. See “Multiple Sources”, Section VIII.
8. 15A NCAC 2D .1806 – Control of Odors. See “Multiple Sources”, Section VIII.
9. 15A NCAC 2Q. 0711 – Permit Requirements for Toxic Air Pollutants (STATE ENFORCEABLE, ONLY). See “Multiple Sources”, Section VIII.

**B. Two (2) Silicone Coating Lines:**

**Silicone Coating Line No. 1 (SCL-01) consisting of the following equipment:**

- Silicone Corona treater No. 1 (ID No. ES-08), controlled by an ozone destruction system (ID No. CD-05) and a recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr (ID No. CD-01);**
- Silicone Dryer (zones 1 & 2) (ID No. ES-11) firing natural gas with a maximum heat input rate of 8.5 MMBtu/hr, controlled by a recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr (ID No. CD-01), or to the atmosphere; and,**
- Silicone Dryer (Zones 3 & 4) (ID No. ES-09) firing natural gas with a maximum heat input rate of 7.0 MMBtu/hr.**

**Silicone Coating Line No. 2 (SCL-02) consisting of the following equipment:**

- Silicone Corona treater No. 2 (ID No. ES-21), controlled by an ozone destruction system (ID No. CD-06) and a recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr (ID No. CD-01);**
- Silicone dryer (Zones 1 & 2) (ID No. ES-24) firing natural gas with a maximum heat input rate of 8.5 MMBtu/hr, controlled by a recuperative thermal oxidizer, firing natural gas with a maximum heat input rate of 21.0 MMBtu/hr (CD-01), or to the atmosphere; and,**
- Silicone dryer (Zones 3 & 4) (ID No. ES-22) firing natural gas with a maximum heat input rate of 7.0 million Btu per hour.**

1. Description – Loparex has not yet constructed Silicone Coating Line No. 2. On Line No. 1, paper from the extrusion laminating process is passed through a Corona treater (with an associated ozone destruct system) and on to a silicone coater where a thin layer of silicone is applied over the polyethylene/polypropylene layer. The silicone-coated paper is then passed through a dryer with four (4) distinct drying zones. All of the exhaust air from the silicone coater is routed to Zones No. 1 and 2, which is in turn routed to a recuperative thermal oxidizer. The dryer has two (2) associated natural gas-fired heaters with maximum heat input 8.5 MMBtu/hr (Zones 1 & 2) and 7.0 MMBtu/hr (Zones 3 & 4). The recuperative thermal oxidizer is natural gas-fired and has a maximum heat input rate of 21.0 MMBtu/hr.

Note that the thermal oxidizer is not used during coating that does not involve to use of solvents.

2. 15A NCAC 2D .0515, “Particulates from Miscellaneous Industrial Processes” - The allowable emission rate for particulate matter (PM) from any stack, vent, or outlet of any industrial process for which no other emissions control standards are applicable shall not exceed the level calculated with the following equation for process weights less than or equal to 30 tons/hr:

$$E = 4.10(P)^{0.67}$$

where: E = allowable emission rate for PM (in lb/hr), and  
P = process weight in tons per hour (tons/hr).

Assuming a process weight rate at the coating line of 1 ton/hour (including natural gas, paper, and silicone coating input), the allowable PM emission rate would be 4.10 lb/hr.

The most significant source of PM emissions associated with coating line is from the combustion of natural gas in the dryer and thermal oxidizer. Potential PM emissions from the silicone coating line are well below the allowable emission rate, as shown below:

$$\left( \frac{8.5\text{MMBtu}}{\text{hr}} + \frac{7.0\text{MMBtu}}{\text{hr}} + \frac{21.0\text{MMBtu}}{\text{hr}} \right) * \left( \frac{\text{MMscf}}{1,020\text{MMBtu}} \right) * \left( \frac{7.6\text{lbPM}}{\text{MMscf}} \right) = 0.27\text{lbPM}/\text{yr}$$

Due to the extremely low potential PM emissions from the silicone coating process, the DAQ expects compliance this emission limitation.

3. 15A NCAC 2D .0516 – Sulfur Dioxide Emissions From Combustion Sources – This regulation limits SO<sub>2</sub> emissions to no greater than 2.3 lb/MMBtu of heat input for combustion sources that are unaffected by SO<sub>2</sub> limits in other state or Federal regulations. The combustion-emissions from the dryer and recuperative thermal oxidizer are affected by this rule.

Because natural gas is an inherently low sulfur emitting fuel, the DAQ does not require monitoring, recordkeeping, or reporting to demonstrate compliance with this emission limitation for combustion sources that are only permitted to combust natural gas.

4. 15A NCAC 2D .0521 – Control of Visible Emissions – VE standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet for which no other emission control standards are applicable. For emission sources with an initial startup date after July 1, 1971, this regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour not more than four times in any 24-hour period.

The permit will require visible emissions observations of the affected exhaust points (i.e., all exhaust points associated with the silicone coating line) at least once every six (6) months to check for visible emissions above “normal”. “Normal” emissions should have been established and documented within 30 days of issuance of the initial Title V permit. The results of all required observations, along with any corrective actions taken to reduce visible emissions, shall be recorded in a logbook.

5. 15A NCAC 2D .0524: New Source Performance Standards; 40 CFR 60, Subpart RR, Pressure Sensitive Tape and Label Surface Coating Operations. Loparex is affected by this standard, as provided in 40 CFR 60.440, because (a) it operates a coating line used in the manufacture of pressure sensitive tape and (b) it was constructed after December 30, 1980.

### Standards

Because the facility inputs greater than 50 tons of VOC to the coating line on a 12-month rolling basis, Loparex is subject to the emission standard provided in 40 CFR 60.442(a), and shall limit VOC emissions each calendar month according to *any* of the following standards:

- Discharge into the atmosphere from the affected facilities shall not exceed 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month; or
- Demonstrate for each affected facility;
  - A 90 percent overall VOC emission reduction over a calendar month; or
  - The percent overall VOC emission reduction calculated according to the following equation, as provided in 40 CFR 60.443(b), over a calendar month:

$$R_Q = \frac{G - 0.20}{G} * 100$$

Where: R<sub>Q</sub> = the required overall VOC emission reduction (in % by weight); and,  
 G = the calculated weighted average of the mass of solvent used per mass of coating solids applied (in kg VOC/kg solids).

If  $R_Q$  is less than or equal to 90 percent, then the required overall VOC reduction is  $R_Q$ .  
 If  $R_Q$  is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.

Loparex assumes that, when applying a solvent-based coating, 99% of the solvent is lost from the silicone coater and Zones 1 & 2 of the dryer, from which emissions are controlled with a recuperative thermal oxidizer (i.e., solvent destruction device). The remaining 1% of the solvent is lost from Zones 3 & 4 of the dryer, which is uncontrolled. Loparex conducted an initial performance test of the thermal oxidizer on October 11, 1996. The test results showed an average VOC control efficiency of *the controlled stream* of 98.18% by weight.

Using the actual, demonstrated control efficiency, Loparex is achieving an overall VOC reduction of well-above 90% by weight, as shown below.

**Overall VOC Reduction Calculation:**

Uncontrolled Emissions During Solvent-Based Coating

Maximum Coating Usage: 350 lb/hr  
 Solvent Content: 96% by weight  
 Maximum, Uncontrolled VOC Emissions:  
 $350 \text{ lb/hr} * 0.96 = 336 \text{ lb/hr}$

Controlled Emissions During Solvent-Based Coating

Controlled Emissions From Coater and Dryer Zones 1 and 2:  
 $336 \text{ lb/hr} * 0.99 * (1-0.9818) = 6.05 \text{ lb/hr}$   
 Uncontrolled Emissions from Dryer Zones 3 and 4:  
 $336 \text{ lb/hr} * 0.01 = 3.36 \text{ lb/hr}$   
 Overall VOC Emissions:  
 $6.05 \text{ lb/hr} + 3.36 \text{ lb/hr} = 9.41 \text{ lb/hr}$

Overall VOC Emissions Reduction During Solvent-Based Coating

$[(336 \text{ lb/hr} - 9.41 \text{ lb/hr})/336 \text{ lb/hr}] * 100\% = 97.20\%$

**Compliance Procedures**

Loparex may demonstrate compliance with these emissions standards as follows:

- To demonstrate that VOC emissions (on a calendar month basis) are less than 0.20 kg VOC/kg of coating solids applied without the use of an add-on control device, the Permittee shall use the equation provided in 60.422(a)(2):

$$G = \frac{\sum_{i=1}^n W_{oi} M_{ci}}{\sum_{i=1}^n W_{si} M_{ci}}$$

Where:

- G = calculated weighted average of the mass of solvent used per mass of coating solids applied (in kg VOC/kg solids);
- $W_{oi}$  = weight fraction of organics applied of each coating (i) applied during the previous calendar month as determined from Method 24 or coating manufacturer's formulation data (in kg VOC/kg coating);
- $M_{ci}$  = total mass of each coating (i) applied during the previous calendar month as determined from production records (in kg); and,
- $W_{si}$  = weight fraction of solids applied of each coating (i) applied during the previous calendar month as determined from Method 24 or coating manufacturer's formulation data (in kg solids/kg coating).

- To determine compliance with the overall VOC reduction standard (i.e., overall VOC reduction of at least 90%), the Permittee shall, once per calendar month, determine the overall VOC reduction for the previous calendar month according to the following equation:

$$\xi_{Overall} = \left( \frac{\sum_{i=1}^n \left( Q_{ES-SCL1,i} * 0.99 * \frac{\xi_{CD-01,i}}{100\%} \right) + \sum_{i=1}^n \left( Q_{ES-SCL2,i} * 0.99 * \frac{\xi_{CD-04,i}}{100\%} \right)}{Q_{ES-SCL1} + Q_{ES-SCL2}} \right) * 100\%$$

Where:

- $\xi_{overall}$  = Overall VOC emission reduction in the previous calendar month (in % by wt.);
- $Q_{ES-SCL1,i}$  = Quantity of the solvent (i.e., VOC) applied at silicone line coater No. 1 (**ID No. ES-SCL1**) in each 3-hour averaging period during the previous calendar month (in lbs);
- $\xi_{CD-01,i}^*$  = Control efficiency of the Line No. 1 thermal oxidizer (**ID No. CD-01**) as established in the most recent performance test (in % by wt.), or zero if the 3-hour average combustion temperature for “i” is less than 1,350 °F
- $Q_{ES-SCL2,i}$  = Quantity of the solvent (i.e., VOC) applied at silicone line coater No. 1 (**ID No. ES-SCL2**) in each 3-hour averaging period during the previous calendar month (in lbs); and,
- $\xi_{CD-04,i}^*$  = Control efficiency of the Line No. 1 thermal oxidizer (**ID No. CD-04**) as established in the most recent performance test (in % by wt.), zero if the 3-hour average combustion temperature is less than 1,350 °F.

*NOTE: The “0.99” value in the equation is accounting for the assumption that 99% of the solvent is lost from the coaters and the first two zones of the dryers. The remaining 1% of the solvent is assumed to be lost from Zones 3 and 4 of the dryers, which are uncontrolled.*

The Permittee is also required to install, calibrate, maintain, and operate a continuous monitoring device that continuously records the combustion chamber temperature in the thermal oxidizer. If the 3-hour average combustion temperature is less than 1,350 °F, the Permittee may not take credit for any VOC reduction during that period (i.e.,  $\xi=0$ ).

The continuous temperature monitoring device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or 2.5 °C.

- 15A NCAC 2D .1111- Maximum Achievable Control Technology; 40 CFR 63, Subpart JJJJ. See “Multiple Sources”, Section VIII.
- 15A NCAC 2Q .0317 – Avoidance Conditions for 15A NCAC 2D. 0530: Prevention of Significant Deterioration. See “Multiple Sources”, Section VIII.
- 15A NCAC 2D .0958 – Work Practices for Sources of Volatile Organic Compounds. See “Multiple Sources”, Section VIII.
- 15A NCAC 2D .1806 – Control of Odors. See “Multiple Sources”, Section VIII.
- 15A NCAC 2D. 1100 –Toxic Air Pollutant Emissions Limitation (STATE ENFORCEABLE ONLY). See “Multiple Sources”, Section VIII.

11. 15A NCAC 2Q. 0711 – Permit Requirements for Toxic Air Pollutants (STATE ENFORCEABLE, ONLY). See “Multiple Sources”, Section VIII.

**C. Three (3) Horizontal Fixed Roof Organic Liquid Storage Tanks:**

**Toluene storage tank, 12,000 gallon aboveground horizontal fixed roof tank (ID No. ES-29);  
Heptane storage tank, 12,000 gallon aboveground horizontal fixed roof tank (ID No. ES-30);  
and,  
Isopropyl alcohol storage tank, 12,000 gallon aboveground horizontal fixed roof tank (ID No. ES-31).**

1. 15A NCAC 2D .0524: New Source Performance Standards; 40 CFR 60, Subpart Kb, Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. Loparex is subject to limited requirements under the provisions of 40 CFR 60, Subpart Kb. As provided in 40 CFR 60.110b(b), storage tanks storing organic liquid with a maximum storage capacity of less than 75 m<sup>3</sup>, or 19,813 gallons, are exempt from the General Provisions provided in 40 CFR 60, Subpart A and from the requirements of Subpart Kb, except as provided in 40 CFR 60.116b(a) and (b).

Pursuant to this requirement, the Permittee shall keep records showing the dimension of each storage vessel and an analysis showing the capacity of each storage vessel readily accessible for the life of the source.

2. 15A NCAC 2D .1111: Maximum Achievable Control Technology (MACT; 40 CFR 63, Subpart EEEE, Organic Liquid Distribution (OLD) MACT. The toluene tank is an affected “organic liquid” storage tank, as it is defined in 40 CFR 63.63.2338(b)(1) and 40 CFR 63.2406. Neither the heptane nor the isopropyl alcohol storage tanks are affected facilities under the OLD MACT because the material stored contains less than 5% by weight of the organic HAPs listed in Table 1 of the Subpart.

However, based on the vapor pressure and capacity of the toluene storage tank, there are no applicable requirements under Subpart EEEE. Pursuant to 40 CFR 63.2346(a), each affected storage tank that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 of the Subpart must comply with the standards provided. The toluene storage tank at Loparex is an “existing” tank with a capacity of 12,000 gallons. The vapor pressure of toluene at 70 °F is 0.425 psia. This does not meet any of the tank capacity and liquid vapor pressure criteria in Table 2.<sup>2</sup> Therefore, no standards apply.

3. 15A NCAC 2Q .0317 – Avoidance Conditions for 15A NCAC 2D. 0530: Prevention of Significant Deterioration. See “Multiple Sources”, Section VIII.
4. 15A NCAC 2D .0958 – Work Practices for Sources of Volatile Organic Compounds. See “Multiple Sources”, Section VIII.
5. 15A NCAC 2D .1806 – Control of Odors. See “Multiple Sources”, Section VIII.
6. 15A NCAC 2D. 1100 –Toxic Air Pollutant Emissions Limitation (STATE ENFORCEABLE, ONLY). See “Multiple Sources”, Section VIII.

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<sup>2</sup> Only Table 2, Item No. 1 provides standards for “existing” storage tanks with capacities less than 50,000 gallons. However, this standard is only applicable to the storage of materials with true vapor pressures of greater than or equal to 4.0 psia.

**D. Miscellaneous Fugitive Sources:**

**Mix Room No. 1 (ID No. ES-12)**  
**Flood Testing Booth (ID No. ES-13)**  
**Chemical Storage Room (ID No. ES-14)**  
**Mix Room No. 2 (ID No. ES-25)**

1. 15A NCAC 2Q .0317 – Avoidance Conditions for 15A NCAC 2D. 0530: Prevention of Significant Deterioration. See “Multiple Sources”, Section VIII.
2. 15A NCAC 2D .0958 – Work Practices for Sources of Volatile Organic Compounds. See “Multiple Sources”, Section VIII.
3. 15A NCAC 2D .1806 – Control of Odors. See “Multiple Sources”, Section VIII.
4. 15A NCAC 2D. 1100 –Toxic Air Pollutant Emissions Limitation (STATE ENFORCEABLE, ONLY). See “Multiple Sources”, Section VIII.
5. 15A NCAC 2Q. 0711 – Permit Requirements for Toxic Air Pollutants (STATE ENFORCEABLE, ONLY). See “Multiple Sources”, Section VIII.

**VIII. Multiple Emission Source Limits:**

**A. 15A NCAC 2D .1111: Maximum Achievable Control Technology (MACT; 40 CFR 63, Subpart JJJJ, Paper and Other Web Coating MACT**

1. Affected Sources. Pursuant to 40 CFR 63.3300, the affected source subject to this subpart is the collection of all web coating lines, which is defined as “any number of work stations, of which one or more applies a continuous layer of coating material across the entire width or any portion of the width of a web substrate, and any associated curing/drying equipment between an unwind or feed station and a rewind or cutting station.” The following Loparex sources are affected by this Subpart:

*Two (2) Extrusion Laminators (ID Nos. ES-03 and ES-06)*

*Two (2) Flootation Dryers (ID Nos. ES-01 and ES-04)*

*Silicone coater and dryer (ID No. ES-11) controlled by a recuperative thermal oxidizer (ID No. CD-01)*

*Silicone dryer (ID No. ES-09)*

*Silicone coater and dryer (ID No. ES-24) controlled by a recuperative thermal oxidizer (ID No. CD-04)*

*Silicone dryer (ID No. ES-22)*

All affected sources are “existing”, and shall comply with the Subpart no later than December 5, 2005.

**Standards** [40 CFR 63.332]

2. The Permittee shall limit organic HAP emissions from the affected sources as provided in any of the following compliance options by December 5, 2005, as provided in 40 CFR 63.3320(b):
  - a. Organic HAP Option – Emit no greater than 5 percent of the total organic HAP applied for each month (i.e., 95 percent organic HAP reduction);
  - b. Coating Option – Emit no greater than 4 percent of the mass of coating materials applied for each month (i.e., 96 percent coating mass reduction);
  - c. Coating Solids Option – Emit no greater than 20 percent of the mass of coating solids applied for each month (i.e., 80 percent coating solids reduction); or,
  - d. If utilizing an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) by compound on a dry basis is achieved and the efficiency of the capture system is 100 percent.

**Testing** [40 CFR 63.3360]

3. The Permittee shall complete all performance testing required pursuant to 40 CFR 63.3360 (dependent upon the compliance options chosen) within 180 days of the compliance date, or no later than June 3, 2006.

**Notifications** [40 CFR 63.3400]

4. The Permittee shall comply with all applicable notification requirements in §62.3400 and §63.9, including but not limited to the following:
  - a. Notification of a performance test at least 60 calendar days prior to the scheduled test, pursuant to §63.7(b)-(c) and §63.9(e);
  - b. Notification of Compliance Status at least 60 calendar days following completion of a compliance demonstration (i.e., performance test, design evaluation, opacity or visible emissions observation, etc.) pursuant to §63.9(h).

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

To avoid applicability of the Prevention of Significant Deterioration (PSD) program, as provided in 15A NCAC 2D .0530, Loparex has accepted a facility-wide VOC emission limitation of 250 tons on a rolling 12-month basis. To ensure facility-wide VOC emissions do not exceed this emission limitation, the following restrictions apply:

- The Permittee shall limit the amount of silicone coating applied to each of the silicone coating lines (**ID Nos. SCL-01 and SCL-02**) to no greater than 8,964,000 pounds per consecutive 12-month period; and,
- The Permittee shall not extrude more than 42,048,000 pounds per consecutive 12-month period onto the paper/film (**ID No. ELL-01**).

To demonstrate compliance with the PSD Avoidance limits, as provided above, the permit will require that Loparex retain monthly records of the total process, application, operation, extrusion, and throughput rates. A summary of these records, as shown below, must be included in the semiannual summary report submitted to the Regional Air Quality Supervisor by January 30 and July 30 of each calendar year:

- The amount of silicone coating formulation applied to each of the silicone coating lines for each of the previous seventeen (17) calendar months;
- The total, 12-month rolling silicone coating formulation application rates to each of the silicone coating lines for each of the previous seventeen (17) calendar months;
- The amount of resin pellets extruded onto paper/film for each of the previous seventeen (17) calendar months;
- The total, 12-month rolling resin pellet extrusion rates for each of the previous seventeen (17) calendar months; and,
- All instances of deviations from the requirements of this permit must be clearly identified.

In addition, the permit requires that Loparex conduct periodic inspection and maintenance (I&M) of the thermal oxidizers (**ID Nos. CD-01 and CD-04**) as recommended by the manufacturer, or at a minimum, the an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves to ensure structural integrity. The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic form) shall be kept on-site and made available to DAQ personnel upon request.

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

The regulation specifies work practices (e.g., material storage, handling, and cleaning procedures) and associated recordkeeping/monitoring requirements to reduce VOC emissions for all sources that use

VOCs as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture VOCs, or emit VOCs as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day.

On its latest inspection, conducted on November 30, 2004, Mr. Ray Stewart of the Winston-Salem Regional Office (WSRO) noted that work practices required by this regulation were being implemented on a facility-wide basis. The DAQ anticipates continued compliance with these requirements.

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

This regulation prohibits the Permittee from causing, allowing, or permitting emission sources to be operated without employing suitable measures for the control of odorous emissions.

On its latest inspection, conducted on November 30, 2004, Mr. Ray Stewart of the Winston-Salem Regional Office (WSRO) noted that no odors were detected beyond the facility's property boundary, indicating compliance with 2D .1806. The DAQ anticipates continued compliance with these requirements.

**E. STATE-ONLY REQUIREMENT: Sources Affected by 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT**

**Silicone Coating Lines (ID Nos. SCL-01and SCL-02);  
 Chemical Storage Room (ID No. ES-14); and,  
 Organic Liquid Storage Tank (ID No. ES-29)**

The existing permit includes toluene and xylene emissions limitations that were established through a previously submitted air toxic compliance demonstration (i.e., air dispersion modeling) as provided in 15A NCAC 2D .1100. Emissions limitations and affected sources are summarized in the following table:

**Summary of TAP Emission Limits Pursuant to 15A NCAC 2D .1100.**

Affected Emission Sources	Toxic Air Pollutant	Emission Limits
Silicone Coating Lines (ID Nos. SCL-01and SCL-02);  Chemical Stroage Room (ID No. ES-14); and  Organic Liquid Storage Tank (ID NO. ES-29)	toluene	532.0 pounds per day and 22.16 pounds per hour
Silicone Coating Lines (ID Nos. SCL-01and SCL-02); and  Chemical Stroage Room (ID No. ES-14)	xylene	235.2 pounds per day and 9.76 pounds per hour

The permit renewal application is not seeking to increase potential or actual emissions of toluene or xylene or add emissions sources that were not included in the original compliance demonstration. Therefore, no updated air dispersion modeling is required as part of this application and toluene and xylene emissions limitations will not change.

To ensure compliance with the above limits, Loparex shall limit the average silicone coating application rate at the silicone coating line to no greater than 1,080 lbs/hr on a calendar-month basis. The Permittee shall retain a

daily record of the 24-hour average silicone coating application rate to demonstrate compliance with these TAP emission limits.

To be consistent with the summary reporting requirements in other portions of the permit, the quarterly reporting requirement is being reduced to semiannual.

**F. STATE-ONLY REQUIREMENT: 15A NCAC 2Q .0711: TOXIC AIR POLLUTANT EMISSIONS LIMITATION**

Pursuant to 15A NCAC 2Q .0711 a permit to emit toxic air pollutants shall be required for any facility whose actual (or permitted if higher) rate of emissions from all sources are greater than any of the toxic permitting emission rates (TPER). The permit requires that Loparex maintain records of operational information sufficient to demonstrate that the facility-wide actual emissions of benzene and n-hexane, including fugitive emissions, are below the TPER, as follows:

- total emissions of benzene shall not exceed 8.1 pounds per year; and
- total emissions of n-hexane shall not exceed 23 pounds per day.

**IX. Compliance Assurance Monitoring:**

Pursuant to 40 CFR 64.2, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

- The unit is subject to an emission limitation AND uses a control device to achieve compliance with the limit;
- The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy for all criteria pollutants in Rockingham County, North Carolina); and,
- The unit is not exempt under 40 CFR 64.2(b).

Loparex is permitted to operate five ozone destruction systems (**ID Nos. CD-02A, CD-02B, CD-02C, CD-05, and CD-04**), each associated with Corona treater. The ozone destruction systems and Corona treaters are not affected by the CAM provisions because (a) the Corona treaters are not subject to any state or Federal ozone emissions limitations and (b) the pre-control ozone emission from the treaters are less than 1 tpy – well below the 100 tpy applicability threshold.

Loparex is also permitted to operate two recuperative thermal oxidizers (**ID Nos. CD-01 and CD-04**) at the silicone coating lines, each associated with a silicone coater and Zones 1 and 2 of the dryer. The silicone coating lines and associated thermal oxidizers meet the first two applicability criteria (i.e., affected by VOC emissions limitation pursuant to 40 CFR 60, Subpart RR *and* with pre-control potential VOC emissions in excess of 100 tpy). However, the sources are exempt from the CAM provisions as provided in 40 CFR 64.2(b)(vi), which states that sources for which the Title V permit already specifies a “continuous compliance determination method”. A “continuous compliance determination method” is defined in 40 CFR 64.1 as a method which is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard *and* which provides data either in units of the standard or correlated directly with the compliance limit.

The thermal oxidizers are used to comply with the VOC emission reduction standard provided in 40 CFR 60.442(a)(2)(i), which requires a 90% VOC reduction by weight on a calendar month basis.

To demonstrate compliance with the standard, the Title V permit has specified the following procedures:

- Continuously monitor and record the combustion chamber temperature of the thermal oxidizer.
- Record each 3-hour period during which the average combustion chamber temperature falls below 1,350 °F. During each such period, the Permittee may not take credit for any VOC emission reduction at the thermal oxidizers.

- Once per month, using solvent usage data and monitored data, determine compliance with the one-month standard according to the following equation:

$$\xi_{Overall} = \left( \frac{\sum_{i=1}^n \left( Q_{ES-SCL1,i} * 0.99 * \frac{\xi_{CD-01,i}}{100\%} \right) + \sum_{i=1}^n \left( Q_{ES-SCL2,i} * 0.99 * \frac{\xi_{CD-04,i}}{100\%} \right)}{Q_{ES-SCL1} + Q_{ES-SCL2}} \right) * 100\%$$

Where:

- $\xi_{Overall}$  = Overall VOC emission reduction in the previous calendar month (in % by wt.);
- $Q_{ES-SCL1,i}$  = Quantity of the solvent (i.e., VOC) applied at silicone line coater No. 1 (**ID No. ES-SCL1**) in each 3-hour averaging period during the previous calendar month (in lbs);
- $\xi_{CD-01,i}^*$  = Control efficiency of the Line No. 1 thermal oxidizer (**ID No. CD-01**) as established in the most recent performance test (in % by wt.), or zero if the 3-hour average combustion temperature for “i” is less than 1,350 °F
- $Q_{ES-SCL2,i}$  = Quantity of the solvent (i.e., VOC) applied at silicone line coater No. 1 (**ID No. ES-SCL2**) in each 3-hour averaging period during the previous calendar month (in lbs); and,
- $\xi_{CD-04,i}^*$  = Control efficiency of the Line No. 1 thermal oxidizer (**ID No. CD-04**) as established in the most recent performance test (in % by wt.), zero if the 3-hour average combustion temperature is less than 1,350 °F.

These monitoring and compliance demonstration procedures are (1) continuous and consistent with the averaging period established in the standard (i.e., one calendar month) and (2) the determination method provides data in units of the standard (i.e., % VOC reduction). Therefore, these units are exempt from the CAM provisions of 40 CFR Part 64 as provided in the “continuous compliance determination method” exemption in 40 CFR 64.2(b)(vi).

### X. Toxic Air Pollutants

The initial startup date of the Loparex facility in Eden, Rockingham County, North Carolina was on May 1, 1996. Loparex, formerly Rexam Release, submitted a facility-wide toxics compliance demonstration pursuant to 15A NCAC 2Q .0704 as part of the construction permit application. As a result, the Permittee has established toluene and xylene emissions limitations pursuant to 15A NCAC 2D .1100. The Permittee is also required to maintain records to demonstrate that facility-wide benzene and n-hexane emissions to not exceed the toxic permitting emission rates (TPERs) as provided in 15A NCAC 2D .0700.

This facility is not required to provide a toxics compliance demonstration with the last MACT pursuant to 15A NCAC 2Q .0705, which is only applicable, “to facilities that were in operation or permitted to constructed before October 1, 1993,” and to facilities constructed after such date that have not received a permit to emit TAPs.

However, the Permittee would have to resubmit a compliance demonstration for any modification described under 15A NCAC 2Q .0706.

### XI. Title V Permit History

08031T03	April 2001	Initial Title V Permit
08031T04	October 2001	Name/ownership change from Rexam Release to Loparex, Inc.
08031T05	December 2002	A 502(b)(10) permit modification to add one printing press with two in-built dryers ( <b>ID Nos. ES-50 and ES-51</b> ).

### XII. Other Regulatory Considerations:

- A consistency determination **is not required** for this renewal application.
- A thirty-day public notice **is required** for this renewal application.
- A Professional Engineers Seal **is not required** for this renewal application.
- An application-processing fee **is not required** for this renewal.

**XIII. Recommendations:**

This Title V Permit Renewal for the Loparex, Inc. facility in Eden, Rockingham County, North Carolina has been reviewed by the DAQ to determine compliance with all procedures and requirements. The DAQ has determined that this facility is complying or will achieve compliance as specified in the permit with all applicable requirements.

**Issue Air Quality Permit No. 08031T06 to Loparex, Inc.**