NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: Date

Region: Winston-Salem Regional Office
County: Rockingham
NC Facility ID: 7900138
Inspector's Name: Dylan Wright
Date of Last Inspection: 06/27/2023
Compliance Code: 3 / Compliance – inspection

Facility Data

Applicant (Facility's Name): Loparex LLC

Facility Address:
Loparex LLC
816 Fieldcrest Road
Eden, NC 27288

SIC: 2672 / Paper Coated and Laminated, Nec
NAICS: 322222 / Coated and Laminated Paper Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0503, .0515, .0516, .0521, .0524, .0958, .1111, .1806, and 02Q 0317, .0508(f), and .0518
NSPS: RR
NESHAP: DDDDD, EEEE, JJJJ, ZZZZ
PSD:
PSD Avoidance: VOC
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Victoria Jones EHS Manager (336) 627-6439 816 Fieldcrest Road Eden, NC 27288 Victoria.hutchings@loparex.com	Ashraf Marzouk Site Director (336) 627-6464 816 Fieldcrest Road Eden, NC 27288 ashraf.marzouk@loparex.com	Victoria Jones EHS Manager (336) 627-6439 816 Fieldcrest Road Eden, NC 27288 Victoria.hutchings@loparex.com

Application Data

Application Number: 7900138.22A / .21A
Date Received: 03/07/2022, 03/10/2021
Application Type: Renewal, 502(b)(10)
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 08031T15
Existing Permit Issue Date: 01/03/2018
Existing Permit Expiration Date: 12/31/2022

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	0.0200	5.95	68.0	4.98	1.09	15.06	13.22 (Toluene)
2020	0.0200	5.23	31.21	4.37	1.03	11.38	9.71 (Toluene)
2019	0.0400	7.51	85.89	6.32	6.32	19.31	16.06 (Toluene)
2018	0.0400	7.35	92.93	6.14	6.14	22.07	17.73 (Toluene)
2017	0.0400	7.73	94.66	6.48	1.25	22.33	18.25 (Toluene)

Review Engineer: Jacob Larson

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue: 08031/T16
Permit Issue Date: Date needed
Permit Expiration Date: Date needed

1. Purpose of Application

Loparex, LLC currently holds title V Permit No. 08031T15 with an expiration date of December 31, 2022 for a silicone release liners manufacturing facility in Eden, Rockingham County, North Carolina. This permit application is for permit renewal with a 502(b)(10) modification. The renewal application was received March 7, 2022 or at least six prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied. The 502(b)(10) change was received on March 10, 2021 for the replacement of ES-08 silicone treater with plasma treater (ES-42) and does not fall under the current permit shield. The ozone destruction device was also removed (CD-05) but was not included in the 502(b)(10). The new plasma treater (ES-42) is a primary source of ozone emissions and will produce 3.19 tons/year of uncontrolled ozone (O_3) emissions.

2. Facility Description

The facility manufactures silicone coated release liners and other pressure sensitive papers used to release adhesives and handling stickers as well as other products.

The facility is a Title V facility because emissions of hazardous air pollutants (HAPs) exceed 10 tons per year of any one HAP or 25 tons per year of all HAPs combined. In this situation, Loparex, LLC is a TV facility specifically because emissions of Toluene exceed 10 tons per year.

3. History/Background/Application Chronology

History/Background

January 03, 2018	TV permit renewal issued. Air Permit No. 08031T15 was issued on January 03, 2018 with an expiration date of December 31, 2022
May 14, 2021	Notice of Deficiency (NOD), of Air Permit No. 08031T15, failure to properly maintain records of thermal oxidizers (ID No. CD-01 and CD-04). Permittee response to NOD on June 01, 2021 to resolve violation.

Application Chronology

March 10, 2021	Received permit application 7900138.21A for 502(b)(10) change replacing ES-08 Corona Treater with Plasma Treater on silicone coating line 1.
March 11. 2021	Sent acknowledgement letter for 502(b)(10) change notification.
April 01, 2021	Plasma Treater (ES-42) was implemented. Silicone Treater (ES-08) and Ozone destruction device (CD-05) were removed. The control device was not replaced, only removed.
May 14, 2021	Facility received Notice of Deficiency (NOD) for failure to record temperature monitoring data. Facility responded on July 1st and 30th to resolve the issue. See Compliance History section for details.

March 07, 2022	Received permit application 7900138.22A for renewal.
March 09, 2022	Sent acknowledgment letter indicating that the application for permit renewal was complete.
August 11, 2023	Sent additional information request via email regarding PFAS emissions. Applicant responded on October 25, 2023.
August 14, 2023	Draft permit and review forwarded to Booker Pullen, permitting supervisor for comments.
August 16, 2023	Comments received from Booker Pullen, Permitting Supervisor.
September 22, 2023	Draft permit and review forwarded to the Winston-Salem regional Office for comments. Minor comments were received September 22, 2023.
September 25, 2023	Draft permit forwarded to the applicant for comments. Minor comments were received October 10, 2023.
September 25, 2023	Draft permit and review forwarded to the Stationary Compliance Branch for comments. No comments were received October 03, 2023, 2023.
XXXX xx, 2023	Draft permit and permit review forwarded to public notice.
XXXX xx, 2023	Public comment period ends. No comments received.
XXXX xx, 2023	EPA comment period ends. No comments received.
XXXX xx, 2023	Permit issued.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page No.	Section	Description of Changes
--	Cover page and throughout permit	• Updated all dates and permit revision numbers.
3	Cover page	• Added "Notice Regarding The Right To Contest A Division Of Air Quality Permit Decision" page
4	Summary of Changes to Permit	• Added summary of changes made to Permit No. 08031T15 according to the most recent requirements of the renewal Title V permit
2	Table of Contents	• Added Section 3.0 as "Insignificant Activities List" • Added Section 4.0 as "General Permit Conditions"
3	List of Acronyms	• Added "List of Acronyms"
4	Permitted Emissions Table	• Removed ES-08 and CD-05 from table and replaced with ES-42 on "Silicone Coating Line 1"
16	Section 2.1.D.4.n	• Inserted paragraph "n"
16	Section 2.1.D.4.q	• Updated CDX hyperlink
17-23	Section 2.2.A	• MACT JJJJ condition was updated to the most recent shell version
25	Section 2.2 B	• Added 15A NCAC 02Q .0308(a) and .0309(b) for PFAS Disclosure
26	Section 3	• Added Insignificant Activities as Section 3 of the Title V Permit
26	Section 3	• Added paper shredder and compaction machine (IES-10) to Insignificant Activities
26	Section 3	• Removed additional information link in footnote because site no longer exist.
27-39	Section 4	• Added updated version of General Conditions as section 4 of Title V Permit

This permit renewal has been consolidated with a 502(b)(10) change that replaced ES-08 and CD-05 with ES-42. IES-10 was also added to the insignificant activities list.

5. Regulatory Review

A.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-01 and ES-04 **MACT Subpart JJJJ**	Two direct-fired natural gas-fired floatation dryers (1.5 million Btu per hour maximum heat input rate, each)	NA	NA
ES-02, ES-05, and ES-07	Three corona treaters	CD-02A, CD-02B, and CD-02C	Three ozone destruction systems, one each
ES-03 and ES-06 **MACT Subpart JJJJ**	Two extrusion laminators	NA	NA

- 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes- The two extrusion laminators (ES-03 & ES-06) and the two direct-fired natural gas-fired floatation dryers (ES-01 & ES-04) are subject to this regulation. To comply with this regulation, the facility must maintain production records such that process rates in tons per hour can be derived. The facility has a PSD Avoidance condition that limits the amount of extruded resin to 42,048,000 pounds per consecutive 12-month period. The condition requires that the facility maintain monthly records of the amount of extruded resin. These records can also be used to demonstrate compliance with this permit condition. In addition, actual PM emissions are expected to be relatively low as they result from the combustion of natural gas. The most recent inspection conducted on 06/027/2023 by Dylan Wright indicated compliance with this permit condition. Continued compliance is expected.

- 15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources- According to this regulation, all combustion sources that discharge SO_2 emissions from any stack, vent, or chimney must not emit more than 2.3 pounds of SO_2 per million BTU input. This regulation applies to the two direct-fired natural gas-fired floatation dryers (ES-01 & ES-04). Natural gas is inherently low in sulfur content; therefore, combustion sources firing natural gas will always have emissions of less than the allowable standard of 2.3 lb/mmBtu. There is no monitoring, recordkeeping or reporting requirements for this permit condition. Continued compliance is expected.

- 15A NCAC 02D .0521, Control of Visible Emissions- The two extrusion laminators (ES-03 & ES-06) and the two direct-fired natural gas-fired floatation dryers (ES-01 & ES-04) are subject to this regulation. Visible emissions are not to exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. To comply, the facility must perform visible emissions observations once every six-month period. If the visible emissions observed are above normal (0-5% opacity), corrective action must be taken. The visible emissions observations must be recorded and maintained in a logbook with dates, times, results, and any corrective action noted. The facility must also submit a summary report of the observations on a semi-annual basis. The visible emissions monitoring is done in April and October each year. During the last inspection[1] records revealed that the last visible emissions observations for these sources were made on April 12, 2022. All emission points were found to be normal. The latest semiannual report was received on July 27, 2023. No deviations were reported. Continued compliance is expected.

[1] Dylan Wright. 06/27/2023

B.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-42	Plasma Treater	NA	NA
ES-09 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired two-zone (Nos. 3 and 4) natural gas-fired silicone dryer No. 1 (7.0 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	NA *(for all AOS)*	NA
ES-11 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 1 (8.5 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	CD-01*(for AOS1 only;* NA *for AOS2 and AOS3)*	One natural gas-fired recuperative thermal oxidizer (21.0 million Btu per hour maximum heat input rate)
ES-21	Silicone corona treater No. 2	NA	NA
ES-22 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired single-zone (No. 3) natural gas-fired silicone dryer (2.0 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	NA *(for all AOS)*	NA
ES-24 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 2 (10.35 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	CD-04 *(for AOS1 only;* NA *for AOS2 and AOS3)*	One natural gas-fired recuperative thermal oxidizer (14.8 million Btu per hour maximum heat input rate)
ES-35	Silicone corona treater No. 3	NA	NA
ES-36 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 3 (11.5 million Btu per hour maximum heat input rate)	NA	NA
ES-37 **NSPS Subpart RR** **MACT Subpart JJJJ**	One direct-fired two-zone (Nos. 3 and 4) natural gas-fired silicone dryer (11.5 million Btu per hour maximum heat input rate)	NA	NA
ES-38	Silicone corona treater, Coater No. 4	NA	NA
ES-39 **MACT Subpart JJJJ**	One direct-fired single-zone natural gas-fired Pilot coater No. 4 (0.7 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Water-based coatings* *AOS3 – Solvent-less-based coatings*	NA	NA
ES-40	Silicone corona treater, Coater No. 5	NA	NA
ES-41 **MACT Subpart JJJJ**	One direct-fired single-zone natural gas-fired Pilot coater No. 5 (0.7 million Btu per hour maximum heat input rate)	NA	NA

- 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes- The three silicone coating lines (ES-09, 11, 22, 24, 36, & 37) and pilot coaters (ES-39 & 41) are subject to this regulation. To comply, the facility must maintain production records such that process rates in tons per hour can be derived. The facility has a PSD Avoidance condition that limits the amount of silicone coating applied at the silicone dryers (ES-09, 11, 22, 24, 36, & 37) and pilot coaters (ES-39 & 41) to limited to 8,964,000 pounds per consecutive 12-month period. The condition requires that the facility maintain monthly records of the amount of silicone coating applied. These records can also be used to demonstrate compliance with this permit condition. In addition, actual PM emissions are expected to be relatively low as they mostly result from the combustions of natural gas. The most recent inspection conducted on 06/27/2023 by Dylan Wright indicated compliance with this permit condition. Continued compliance is expected.

- 15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources- According to this regulation, all combustion sources that discharge SO_2 emissions from any stack, vent, or chimney must not emit more than 2.3 pounds of SO_2 per million BTU input. This regulation applies to the three silicone coating lines (ES-09, 11, 22, 24, 36, & 37), pilot coaters (ES-39 & 41), and two thermal oxidizers (CD-01 & 04). Natural gas is inherently low in sulfur content, therefore, combustion sources firing natural gas will always have emissions of less than the allowable standard of 2.3 lb/mmBtu. There is no monitoring, recordkeeping or reporting requirements for this permit condition. Continued compliance is expected.

- 15A NCAC 02D .0521, Control of Visible Emissions- The three silicone coating lines (ES-09, 11, 22, 24, 36, & 37), pilot coaters (ES-39 & 41), and two thermal oxidizers (CD-01 & CD-04) are subject to this regulation. Visible emissions are not to exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. To comply, the facility must perform visible emissions observations once every six-month period. If the visible emissions observed are above normal (0-5% opacity), corrective action must be taken. The visible emissions observations must be recorded and maintained in a logbook with dates, times, results, and any corrective action noted. The facility must also submit a summary report of the observations on a semi-annual basis. The visible emissions monitoring is done in April and October each year. The records revealed that the last visible emissions observations for these sources were made on July 23, 2023 All emission points were found to be normal. The latest semiannual report was received on July 27, 2023 No deviations were reported. Continued compliance is expected.

- 15A NCAC 02D .0524, New Source Performance Standards (40 CFR 60, Subpart RR)- The three silicone coating lines (ES-09, 11, 22, 24, 36, & 37) and pilot coaters (ES-39 & 41) are subject to 40 CFR Part 60, Subpart RR "Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations." Monthly VOC emissions are limited to 0.20 kg VOC/ kg of coating solids on a weighted calendar-month average, or 90% overall monthly VOC reduction or percent overall reduction as calculated by the equation in 40 CFR 60.443(b). VOC content per unit of coating solids applied must be determined by either Reference Method 24 or by manufacturers' formulation data. Performance testing was conducted on April 15, 2010 and May 7, 2010 on thermal oxidizers CD-01 and CD-04, respectively. The permit condition states that the 3-hour average temperature of the thermal oxidizers (CD-01 and CD-04) must be monitored and recorded whenever they are in use. No credit for emissions reductions can be taken for any 3-hour period during which the 3-hour average combustion chamber temperatures of the oxidizers

are more than 50 °F below the average temperatures established during the most recent performance test.

- CD-01 operated at three-hour average of 1,421 °F during the performance test conducted on August 4, 2023 with oxidizer achieving a 97.5% DRE.
- CD-04 operated at three-hour average of 1,300 °F during the performance test conducted on June 27, 2023 with oxidizer achieving a 97% DRE.

This permit condition also requires continuously recording of the combustion temperature of the thermal oxidizers (CD-01 and CD-04) during solvent-based coating operations (AOS1) and the temperature monitoring devices must have an accuracy of the greater of ± 0.75% or 2.5°C. Any 3-hour period during which the 3-hour average combustion chamber temperature of the oxidizer(s) is more than 50 °F below the average temperature of the most recent performance test shall not be used in calculating emission reductions. On a monthly basis, the facility must demonstrate compliance with one of the emission standards, record the quantity of coatings applied, record the weight fraction of each coating applied, and record the weight fraction of solids in each coating applied. This permit condition also requires a monitoring device that continuously indicates operations of hood enclosures.

To demonstrate compliance each month, the facility calculates the weighted average of the mass of solvent used per mass of coating solids applied (G). If the result is less than 0.20 kg VOC/kg of solids applied limit, then compliance demonstrated. If not, the Rq (percent required control) equation is used to determine the average control efficiency for each month. Rq has been established as 94%. Ms. Jones provided electronic records of the monthly coating usage. Each coating has a profile which includes the weight fraction and solids content. Ms. Jones sends the monthly usage records to the facility's consultant, who in turn uses the methods required by this regulation to demonstrate monthly compliance. These records along with any exceedance reports are required to be submitted on a quarterly basis. The temperatures of the thermal oxidizers are recorded daily on strip charts. The temperatures of the thermal oxidizers are also recorded on a continuous basis electronically using process monitoring software. Since the thermal oxidizers are interlocked with the coating stations, there are no 3-hour periods when either thermal oxidizer falls 50 °F below the average temperature.

Coating lines 1 and 2 (ES-09, 11, 22, & 24) are each equipped with a permanent total enclosure (PTE). The PTE is used when the coating line is using solvent-based coatings. The control system is set up to shut down the line if the PTE is not closed shut when in solvent mode. The facility monitors the pressure drop in the PTEs once per shift (twice per 24 hours). Ms. Jones confirmed that the pressure monitors are replaced on an annual basis. Continued compliance is expected.

C.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-12	Mix room No. 1	NA	NA
ES-13	Flood testing booth	NA	NA
ES-14	Chemical storage room	NA	NA
ES-25	Mix room No. 2	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-29 **MACT Subpart EEEE**	Toluene storage tank (12,000-gallon capacity)	NA	NA
ES-30	Heptane storage tank (12,000-gallon capacity)	NA	NA
ES-31	Isopropyl alcohol storage tank (12,000-gallon capacity)	NA	NA

15A NCAC 02D .1111, Maximum Achievable Control Technology- The toluene storage tank (ES-29) is subject to 40 CFR Part 63, Subpart EEEE "National Emission Standards for Hazardous Air Pollutants for Organic Liquids Distribution (Non-Gasoline)." Based on permit review T09, written by Mark Cuilla, the toluene storage tank has a capacity of 12,000 gallons, and toluene has a vapor pressure of 0.425 psia at 70°F. Since the content in the tank has a vapor pressure below the applicable vapor pressure range established in the rule, this tank has no applicable standards. Continued compliance is expected.

D.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-BL02 **MACT Subpart DDDDD**	One natural gas-fired boiler (4.2 million Btu per hour maximum heat input rate)	NA	NA
ES-BL01 **MACT Subpart DDDDD**	One natural gas-fired boiler (4.185 million Btu per hour maximum heat input rate)	NA	NA

15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers- The natural gas-fired boilers (ES-BL01 & ES-BL02) are subject to this regulation. The facility is limited to 0.60 pounds per million Btu heat input. Using AP-42 emission factors, PM emissions from natural gas are estimated to be less than 0.60 pounds per million Btu. Continued compliance is expected.

15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources- According to this regulation, all combustion sources that discharge SO_2 emissions from any stack, vent, or chimney must not emit more than 2.3 pounds of SO_2 per million BTU input. This regulation applies to the two natural gas-fired boilers (ES-BL01 & ES-BL02). Natural gas is inherently low in sulfur content, therefore, combustion sources firing natural gas will always have emissions of less than the allowable standard of 2.3 lb/mmBtu. Continued compliance is expected.

15A NCAC 02D .0521, Control of Visible Emissions- The two natural gas-fired boilers (ES-BL01 & ES-BL02) are subject to this regulation. Visible emissions are not to exceed 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. If the boilers operate according to manufacturer specifications, there will likely be no visible emissions from the boilers. Continued compliance is expected.

15A NCAC 02D .1111, Maximum Achievable Control Technology- Requirements for complying with the National Emission Standards for Hazardous Air Pollutants (NESHAP) federal regulations promulgated by the EPA. The two natural gas-fired boilers (ES-BL01 & ES-BL02) are subject to 40 CFR Part 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters." Both boilers are subject to work practice standards and are not subject to any emission limits or operating limits. At all times, the facility must operate and maintain the boilers and associated equipment in a manner consistent with safety and good air pollution control practices to minimize emissions. As required by the rule, the facility must conduct tune-ups every five years. Initial startup notifications for boilers ES-BL01 and ES-BL02 were received at DAQ on May 17, 2013 and October 29, 2012, respectively. Initial boiler tune-ups were conducted on November 24, 2015 (ES-BL02) and December 7, 2015 (ES-BL01) by Boiler Master's Inc. The initial tune-up compliance report was submitted to DAQ-WSRO on January 19, 2016. It appears that the facility performs annual tune-ups, but for compliance purposes, subsequent tune-ups will be due five years from the initial tune-up dates. There were annual tune-ups conducted on ES-BL01 on November 10, 2021 and ES-BL02 on September 1, 2021. No compliance report was received for these tests. The 5-year tune-ups were done on May 29, 2020 for both boilers and the compliance report was received by DAQ-WSRO on January 19, 2021. The compliance report was also submitted electronically via EPA's Compliance and Emissions Data Reporting Interface (CEDRI) as required. The next compliance report is due January 30, 2026. Continued compliance is expected.

SECTION 2.2 - Multiple Emission Source(s) Specific Limitations and Conditions

A. All facilities subject to 40 CFR 63, Subpart JJJJ (15A NCAC 2D .1111): NESHAP (MACT) for PAPER AND OTHER WEB COATING

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-01 and ES-04	Two direct-fired natural gas-fired floatation dryers (1.5 million Btu per hour maximum heat input rate, each)	NA	NA
ES-03 and ES-06	Two extrusion laminators	NA	NA
ES-09	One direct-fired two-zone (Nos. 3 and 4) natural gas-fired silicone dryer No. 1 (7.0 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	NA *(for all AOS)*	NA
ES-11	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 1 (8.5 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	CD-01*(for AOS1 only;* NA *for AOS2 and AOS3)*	One natural gas-fired recuperative thermal oxidizer (21.0 million Btu per hour maximum heat input rate)
ES-22	One direct-fired single-zone (No. 3) natural gas-fired silicone dryer (2.0 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	NA *(for all AOS)*	NA
ES-24	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 2 (10.35 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coatings* *AOS3 – Compliant water-based coatings*	CD-04 *(for AOS1 only;* NA *for AOS2 and AOS3)*	One natural gas-fired recuperative thermal oxidizer (14.8 million Btu per hour maximum heat input rate)
ES-36	One direct-fired two-zone (Nos. 1 and 2) natural gas-fired silicone dryer No. 3 (11.5 million Btu per hour maximum heat input rate)	NA	NA
ES-37	One direct-fired two-zone (Nos. 3 and 4) natural gas-fired silicone dryer (11.5 million Btu per hour maximum heat input rate)	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-39	One direct-fired single-zone natural gas-fired Pilot coater No. 4 (0.7 million Btu per hour maximum heat input rate) *AOS1 – Solvent-based coatings* *AOS2 – Solvent-less-based coating* *AOS3 – Compliant water-based coatings*	NA	NA
ES-41	One direct-fired single-zone natural gas-fired Pilot coater No. 5 (0.7 million Btu per hour maximum heat input rate)	NA	NA

15A NCAC 02D .1111, Maximum Achievable Control Technology- Requirements for complying with the 40 CFR Part 63, Subpart JJJJ "National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating." For *AOS1 – Solvent-based coatings* the affected sources must achieve 95% HAP reduction each month. Performance tests were conducted on for thermal oxidizer (CD-01) August 4, 2023 and on June 27, 2023 for thermal oxidizer (CD-04). Compliance with the 95% HAP reduction is based on monthly monitoring requirements as explained below and valid 3-hour average combustion temperatures during each month is less than 50 °F below the average temperature during the most recent performance test.

- CD-01 operated at three-hour average of 1,421 °F during the performance test conducted on August 4, 2023 with oxidizer achieving a 97.5% DRE.
- CD-04 operated at three-hour average of 1,300 °F during the performance test conducted on June 27, 2023 with oxidizer achieving a 97% DRE.

Monitoring to demonstrate compliance is done through maintaining a site-specific monitoring plan and a continuous temperature monitoring system. The site-specific monitoring plan must identify the parameters to be monitored, the range of values for each parameter to be monitored, and the capture system operating parameters. All capture system monitoring must be done in accordance with the plan, and it must be reviewed and updated annually. The plan also requires periodic inspections and maintenance on the capture system. At a minimum, an internal inspection of each capture system to ensure structural integrity is required.

The continuous temperature monitoring system for each thermal oxidizer must be installed, calibrated, operated, and maintained per manufacturer specifications. The system must complete a minimum of one cycle of operation every 15 minutes and be equipped with a continuous temperature recorder. Thermocouples (or temperature sensors) must be installed in the combustion zone of each thermal oxidizer and must have an accuracy of the greater of ± 1% or 1°C. Thermocouples are to be calibrated or replaced every 3 months. The continuous temperature monitoring systems must be always kept in proper working order. Each temperature monitoring system must be always operated when each associated thermal oxidizer is operating except for during malfunctions, associated repairs or required quality assurance or control activities (e.g., calibration checks or zero and span adjustments).

The permit specifies that valid temperature monitoring data from at least 90 percent of the hours during which the associated thermal oxidizer operated must be recorded, and for an hour of temperature monitoring data to be valid that data must consist of a minimum of four equally spaced

successive cycles of continuous temperature monitoring system operation. The permit specifies that the permittee must calculate the hourly average of all recorded temperature readings using at least three of the four equally spaced data values from that hour and calculating rolling 3 three-hour-averages of all recorded temperature readings for each operating period. Compliance summary reports are to be submitted on a semi-annual basis and these reports are to include startup, shutdown, and malfunction reports.

Loparex maintains the site-specific monitoring plan as part of their "Hazardous Waste Handling and Other Environmental Resource Manual." This manual was last updated in June 2020. Per the facility's Continuous Parameter Monitoring Plan, a permanent total enclosure (defined by the EPA as having a pressure drop of 0.007" w.c. which equates to a 200 ft/min facial velocity at natural draft openings) is maintained at silicone dryers Nos. 1 and 2 (ES-11 and ES-34) during solvent-based coating operations. Loparex measures the differential pressure between inside and outside of the enclosure once per shift (twice per day) to verify that the differential pressure is at least 0.007" w.c. when operating in solvent-based mode. The magnehelic gauges used for pressure drop readings are replaced annually. The differential pressure along with % LEL are continuously monitored. Silicone coating lines Nos. 1 and 2 are set up to automatically shut down if the measured pressure differential is not within the specified operating range.

In addition, MACT JJJJ was revised effective as of July 9, 2020. The revised rule clarified that the rule intent was that for affected sources using capture and control systems for compliance with the emission standards (which is the compliance option chosen by the Permittee for all three web coating lines), deviations of the capture and control system parameters alone were not violations of the emission standards. The emission standard is determined on a monthly basis. Other substantial changes to the rule affecting this facility include:

- Five-year testing cycle: The rule now requires 5-year periodic testing of the thermal oxidizers.
- Changes associated with the vacatur of the MACT startup, shutdown, and malfunction (SSM) provisions at 40 CFR 63.6. Starting July 9, 2020, the Permittee must be in compliance with the standards at all times. The vacatur had many other implications in this rule (and hence to the permit conditions) including the recordkeeping and reporting requirements.
- Electronic reporting: the rule revised the electronic reporting requirements.
- Revised temperature sensor validation procedures
- The use of a "Control Destruction Efficiency Curve" pursuant to §63.3360(e)(1),

Thermal Oxidizers CD-01 and CD-04 can be shut down for AOS2- Solvent-Less-Based Coating and AOS3- Compliant Water-Based Coatings. The uncontrolled VOC emissions from AOS2 and AOS3 will exit the same exhaust stack. The enclosure will still function, but the enclosure door can be opened and closed during AOS2 and AOS3 operations. Therefore, compliance for these operating scenarios fall under NSPS RR and the facility shall not exceed 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month.

During the Stack test conducted on June 27, 2023 CD-01 failed to achieve 95% DRE only achieving 89% DRE. The facility corrected this deficiency by making repairs and raising the three-hour average temperature of the oxidizer (CD-01) from 1277 to 1421 to achieve a DRE of 97% during the stack test conducted on August 4, 2023.

B. Facility-wide Emission Sources

15A NCAC 02Q .0317, Avoidance Conditions (15A NCAC 02D .0530, Prevention of Significant Deterioration, VOC)-The facility is limited to 250 tons per year of VOC emissions. To demonstrate compliance, the amount of silicone coating applied at the silicone dryers (ES-09, 11, 22, 24, 36, & 37) and pilot coaters (ES-39 & 41) is limited to 8,964,000 pounds per consecutive 12-month period. The facility is also limited to 42,048,000 pounds per consecutive 12-month period of extruded resin in the extrusion laminators (ES-03 & 06). Each month, the facility must maintain records of the total silicone coating usage and amount resin extruded during the previous calendar month. Furthermore, the facility must perform, at minimum, an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves to ensure the structural integrity of the thermal oxidizers (CD-01 & 04). Results of each annual inspection muse be maintained in a log. The facility is required to submit a semiannual report containing 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 and the total 12-month rolling resin pellet extrusion rates for each of the previous seventeen (17) calendar months. All instances of deviations should be noted in the semiannual report.

Per the report received on July 27, 2023 the 12-month rolling total of resin coatings applied ranges from 7.1 million to 8.5 million pounds and silicone extruded ranges from 2.3 million pounds to 3.0 million pounds, respectively indicating that Loparex is well within the permitted production limits. Continued compliance is expected.

15A NCAC 02Q .0508(f) and 15A NCAC 02Q .0518 Disclosure of Information Relating to Emissions of Fluorinated Chemicals- The Permittee shall have an ongoing duty to disclose the presence of materials containing fluorinated chemicals at the facility that have the potential to result in the emission of fluorinated chemicals to the environment. Such disclosures shall be in writing and submitted to the Regional Office Supervisor within thirty days of the Permittee becoming aware of such information unless such information has already been disclosed to DAQ by the Permittee. The disclosure shall describe the identity, quantity, and use of such material to the extent known. DAQ may require the permittee to conduct analysis or testing of fluorinated chemical emissions as necessary to properly evaluate emissions sources at the facility. As used in this condition, the term "fluorinated chemicals" includes but is not limited to per- and polyfluoroalkyl substances (PFAS).

15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions- This regulation is State-enforceable Only. The owner or operator of a facility subject to this Rule shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. A review of the facility's file shows no recent odor complaints have been received by this office. Continued compliance is expected.

6. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS - The Permittee is subject to the New Source Performance Standards for Pressure Sensitive Tape and Label Surface Coating Operations (40 CFR 60, Subpart RR). For AOS2- Solvent-Less-Based Coating and AOS3- Compliant Water-Based Coatings Permittee is required to limit VOC emissions from these sources to less than 0.20 kilograms VOCs per kilogram coating solids applied as on a weighted average basis for one calendar month or demonstrate for each affected facility the required overall VOC compound emission reduction as calculated over a calendar month is at least 90 percent. The current permit includes compliance procedures, monitoring, recordkeeping, and reporting requirements. This permit renewal does not affect this status.

NESHAP/MACT- The Permittee is currently subject to several Maximum Achievable Control Technology Standards. National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating (40 CFR 63, Subpart JJJJ). National Emission Standards for Hazardous Air Pollutants from Organic Liquids Distribution (non-gasoline) (40 CFR 63, Subpart EEEE), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) National Emission Standards for Hazardous Air Pollutants (NESHAP) from New and Existing Industrial, Commercial, and Institutional Boilers and Process Heaters at Major Sources under 40 CFR 63, Subpart DDDDD.

MACT JJJJ was revised effective as of July 9, 2020. The revised rule clarified that the rule intent was that for affected sources using capture and control systems for compliance with the emission standards (which is the compliance option chosen by the Permittee for all three web coating lines), deviations of the capture and control system parameters alone were not violations of the emission standards. The emission standard is determined on a monthly basis. Other substantial changes to the rule affecting this facility include:

- Five-year testing cycle: The rule now requires 5-year periodic testing of the thermal oxidizers.
- Changes associated with the vacatur of the MACT startup, shutdown, and malfunction (SSM) provisions at 40 CFR 63.6. Starting July 9, 2020, the Permittee must be in compliance with the standards at all times. The vacatur had many other implications in this rule (and hence to the permit conditions) including the recordkeeping and reporting requirements.
- Electronic reporting: the rule revised the electronic reporting requirements.
- Revised temperature sensor validation procedures
- The use of a "Control Destruction Efficiency Curve" pursuant to §63.3360(e)(1),

PSD- This facility is a Minor source under PSD. The facility is limited to 250 tons per year of VOC emissions. To demonstrate compliance, the amount of silicone coating applied at the silicone dryers (ES-09, 11, 22, 24, 36, & 37) and pilot coaters (ES-39 & 41) is limited to 8,964,000 pounds per consecutive 12-month period to control the VOC emissions from the Dryers. The facility is also limited to 42,048,000 pounds per consecutive 12-month period of extruded resin in the extrusion laminators (ES-03 & 06) to control the VOC emissions from the laminators. The total potential emissions of VOCs from the miscellaneous sources (ES-1, ES-4, BL02, BL01), the laminators and dryers appear be less than 250 tons per year. Each month, the facility must maintain records of the total silicone coating usage and amount resin extruded during the previous calendar month. Furthermore, the facility must perform, at minimum, an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves to ensure the structural integrity of the thermal oxidizers (CD-01 & 04). Results of each annual inspection must be maintained in a log. The facility is required to submit a semiannual report containing 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 and the total 12-month rolling resin pellet extrusion rates for each of the previous seventeen (17) calendar months. All instances of deviations should be noted in the semiannual report.

112(r)-The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the 112(r) thresholds. No change with respect to 112(r) is anticipated under this permit renewal.

CAM-40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard. A Compliance Assurance Monitoring Plan review was conducted as part of the renewal of the permit in 2010. In the review, it was determined that for the emission sources that were currently installed, a CAM plan was not required at that time. Since 2010, the facility has added three coating lines and an additional boiler. The compliance assurance monitoring (CAM) rule requires owners and operators to conduct monitoring to provide a reasonable assurance of compliance with applicable requirements under the act. Monitoring focuses on emissions units that rely on pollution control device equipment to achieve compliance with applicable standards. An emission unit is subject to CAM, under 40 CFR Part 64, if all of the following three conditions are met:

- The unit is subject to any (non-exempt, e.g., pre-November 15, 1990, Section 111 or 112 standard) emission limitation or standard for the applicable regulated pollutant.
- The unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit's pre-control potential emission rate exceeds 100 percent of the amount required for a source to be classified as a major source, i.e., either 100 tpy (for criteria pollutants) or 10 tpy of any individual/25 tpy of any combination of HAP.

The emission sources installed since the last CAM review are uncontrolled therefore a CAM review is not needed at this time.

7. Facility Wide Air Toxics

The majority of the permitted emission sources at Loparex which emit toxic air pollutants are subject the NESHAP (MACT) for Paper and Other Web Coating in 40 CFR 63 Subpart JJJJ. These sources are now exempt from NC air toxic rules in accordance with NC House Bill 952. No new emission sources are included with this renewal and this renewal does not change the compliance status of this facility for toxic air pollutants.

8. Facility Emissions Review

The facility-wide potential emissions do not change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2017 to 2021 are provided in the header of this permit review.

9. Compliance Status

A Notice of Deficiency was issued on May 14, 2021 because the facility was failing to calculate hourly average temperatures and rolling 3-hour average temperatures of the two thermal oxidizers as specified in the permit condition for 40 CFR Part 63 Subpart JJJJ. The facility responded to this letter on June 1 and 30, 2021 stating that a new system would be in place to calculate the averages as stated in the permit. The averages were being calculated at the time of this inspection. No further action is needed.

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

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with

15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. No affected states or local agencies are within 50 miles of this facility.

11. Other Regulatory Considerations

- A P.E. seal is NOT required for this renewal application.
- A zoning consistency determination is NOT required for this renewal application.
- A permit fee is NOT required for this renewal application.

12. Recommendations

The permit renewal application for Loparex, LLC. located in Eden, Rockingham County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 08031T16.