

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: XXXX XX, 2023

Region: Mooresville Regional Office
County: Catawba
NC Facility ID: 1800556
Inspector's Name: Donna Cook
Date of Last Inspection: 01/27/2021
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Pregis PolyMask, Inc.

Facility Address:
 Pregis PolyMask, Inc.
 500 Thornburg Drive SE
 Conover, NC 28613

SIC: 2671 / Paper Coated And Laminated Packaging
NAICS: 326112 / Plastics Packaging Film and Sheet (including Laminated Manufacturing)

Facility Classification: Before: Permit Exempt **After:** Title V
Fee Classification: Before: N/A **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0515, .0516, .0521, .0535, .0540, .1806, and 02Q .0504
NSPS: 15A NCAC 02D .0524 – Subpart RR
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data		
Facility Contact	Authorized Contact	Technical Contact
Mark Mars Plant Manager (704) 249-1073 500 Thornburg Drive SE Conover, NC 28613+0309	Michael Beckman President (650) 868-8820 615 Enterprise Street Aurora, IL 60504	Bobby Guess Plant Manager (828) 310-2279 500 Thornburg Drive SE Conover, NC 28613+0309

Application Data

Application Number: 1800556.22A
Date Received: 10/07/2022
Application Type: New Permit
Application Schedule: State

Existing Permit Data

Existing Permit Number: N/A
Existing Permit Issue Date: N/A
Existing Permit Expiration Date: N/A

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2013	0.0100	1.69	3.39	1.42	0.1300	0.3540	--- [---]

Review Engineer: David B. Hughes

Review Engineer's Signature: _____ **Date:** XXXX XX, 2023

Comments / Recommendations:

Issue 10767/R00
Permit Issue Date: XXXX XX, 2023
Permit Expiration Date: XXXX XX, 2028

I. Purpose of Applications

Application No. 1800556.22A

Pregis PolyMask, Inc. (Pregis) owns and operates a protective tape manufacturing facility at 500 Thornburg Drive, SE, Conover, North Carolina. Currently, the facility is exempt from air permitting per 15A NCAC 02Q .0102(d) because actual emissions of particulate matter less than 10 micrometers in aerodynamic diameter (PM10), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), hazardous air pollutants (HAP), and toxic air pollutants (TAP) are each less than 5 tons per year (tpy) and actual total aggregate emissions are less than 10 tpy.

Air Permit Application No. **1800556.22A** was received on **October 18, 2022** for a new Air Permit No. 10767R00. Pregis is planning to construct a new solvent coater line (ID No. ES-SL) with a natural gas-fired drying oven (ID No. ES-Oven SL) and a printer (ID No. ES-P) controlled by a regenerative thermal oxidizer (RTO) (ID No. CD-RTO) at the Conover, North Carolina facility. As potential emissions from the new solvent coater line and printing line are expected to be greater than the permitting exemption thresholds listed in 15A NCAC 02Q .0102, Pregis is applying for a Permit to Construct for a Title V Facility per 15A NCAC 02Q .0500. Pregis has elected to permit this project and the facility using a two-step permitting process outlined in 15A NCAC 02Q .0501(b)(2). Pregis will submit the Permit to Operate for a Title V Facility application within 12 months after commencing operation of the solvent coating line and printer. Pregis will be a minor source with respect to the Prevention of Significant Deterioration (PSD) permitting program.

II. Facility Description

Pregis owns and operates a protective tape manufacturing facility. The production process currently includes applying adhesive coatings to rolls of various polyethylene film substrates using water-based adhesive coating lines, a printer, natural gas-fired dryer ovens for curing and drying of the film substrates, and corona treaters. Specifically, Pregis currently operates three water-based adhesive coating lines (Coating Lines B, C, and F) and one flexographic printing line (Flexographic Line E) with associated natural gas-fired drying ovens and corona treaters.

Pregis plans to decommission Coating Line C (ID No. EU 002) and Flexographic Line E (ID No. EU 004) and plans to construct and operate one new solvent coater line (ID No. ES-SL) and one new flexographic printer (ID No. ES-P), both of which will be controlled by an RTO (ID No. CD-RTO). The solvent coater line will use both water-based and solvent-based adhesive coatings rather than just the water-based adhesive coatings that the existing lines use. Pregis expects the potential VOC emissions from the new solvent coater line, associated drying oven, and printer to be greater than the emission-based thresholds for permit exemption listed in 15A NCAC 02Q .0102. Emissions from the new coating line and printer will be controlled by a RTO, which will have a capture efficiency of 100% and a control efficiency of greater than 99%, based on specifications for a similar facility.

Other sources of emissions at the facility will consist of the two existing coating lines B and F (ID Nos. EU 001 and EU 005) (after decommissioning and removal of coating line C and flexographic line E), natural gas-fired ovens for each of the coating lines, space heaters for human control, existing corona treaters, and the use of cleaning solvents on the new solvent coater line and printer. The facility will also operate a log saw roll, which cuts the finished rolls of the polyethylene film substrates into final product lengths. The operation of the log saw will result in negligible emissions to the environment.

The only significant sources to be permitted at the facility will be the new solvent coater line (ID No. ES-SL), drying oven (ID No. ES-Oven SL), and printer (ES-P), along with the RTO (ID No. CD-RTO). The two existing coating lines (ID Nos. EU 001 and EU 005), existing natural gas-fired ovens, and corona treaters will be considered insignificant per 15A NCAC 02Q .0503(8) due to criteria pollutant potential emissions and HAP potential emissions being below insignificant activity thresholds. The emissions from these units have been included for the purposes of facility-wide aggregation of source emissions. The space heaters at the facility are considered insignificant per 15A NCAC 02Q .0503(7)(d) as the heating units are used for human comfort and each have a heat input of less than 10 million Btu per hour (MMBtu/hr), and as such, have not been included in facility-wide potential emissions and will not be listed in the Insignificant / Exempt Activities list.

III. History/Background/Application Chronology

October 18, 2022 – DAQ received Permit Application **1800556.22A**, which is a request for a Permit to Construct for a Title V Facility per 15A NCAC 02Q .0500. The application was deemed complete for processing.

December 16, 2022 - DRAFT permit sent to Permittee, Supervisor, WSRO and Samir Parekh (Stationary Source Compliance Branch (SSCB)) for comment. Josie Bates (Ramboll US Consulting, Inc.) provided comments on draft permit and review via e-mail on **December 22, 2022**. Samir Parekh responded via email on **December 30, 2022** with minor comments concerning CAM. Jennifer Manning of Mooresville Regional Office responded via email on **January 3, 2023** with comments on the draft permit.

December 30, 2022 – Samir Parekh (SSCB) states via email that the continuous monitoring and recording of the temperature for a RTO (ID No. CD-RTO) is not considered a “continuous compliance determination method (CCDM) by DAQ and therefore Pregis is subject to CAM.

January 4, 2023 – David B. Hughes forwards Samir’s email to Josie Bates (Ramboll US Consulting, Inc.) informing her that Pregis is subject to CAM.

January 9, 2023 – Josie Bates emails David B. Hughes informing him that Pregis will submit a CAM plan when she submits the operating permit application within 12-months of startup (Step 2 of Significant Modification). Actually, unless the unit is a large PSEU, the CAM plan would not be due until the first renewal pursuant to Part 64.

January 27, 2023 – David B. Hughes, Josie Bates, Mark Cuilla, and Jennifer Manning have a Teams conference call to discuss Environmental Justice (EJ) report.

January 31, 2023 – David B. Hughes, Josie Bates, Mark Cuilla, and Jennifer Manning have a Teams conference call to discuss Josie’s proposal to construct equipment before permit is issued. DAQ informs her that this will not be possible.

February 3, 2023 – Renee Kramer sends out DAQ EJ outreach recommendations via email to Mark Cuilla, Michael Pjetraj, Taylor Hartsfield, David B. Hughes, Elizabeth Christenson-Diver, Shawn Taylor, and Indyah Bryant.

February 8, 2023 – Public Notice for Pregis PolyMask, Inc. sent to Hickory Daily Record (Newspaper). Public Notice, Draft Air Permit No. **10767R00**, Air Permit Review, Pregis PolyMask EJScreen acs2020 report, and DAQ EJ outreach recommendations February 3, 2023 put on the NCDEQ/DAQ website. 30-day Public Comment period begins.

XXXX XX, 2023 – Jenny Sheppard (DAQ) updated ESM.

March 10, 2023 – Public Comment period ends.

XXXX XX, 2023 – Air Permit No. **10767R00** issued as a Title V permit.

IV. Permit Modifications/Changes and ESM Discussion

The following table provides a summary of the changes to the permit.

Page	Section	Description of Change
N/A	N/A	N/A

V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 02D .0515, “Particulates from Miscellaneous Industrial Process”
- 15A NCAC 02D .0516, “Sulfur Dioxide Emissions from Combustion Sources”
- 15A NCAC 02D .0521 “Control of Visible Emissions”
- 15A NCAC 02D .0524 “New Source Performance Standards (40 CFR 60, Subpart RR)”
- 15A NCAC 02D .0535, “Excess Emissions Reporting and Malfunctions”
- 15A NCAC 02D .0540, “Particulates from Fugitive Dust Emission Sources”
- 15A NCAC 02D .1806, “Control and Prohibition of Odorous Emissions” (*State-Enforceable Only*)
- 15A NCAC 02Q .0504, “Options for Obtaining Construction and Operation Permit”

**A. Solvent Coating Line (ID No. ES-SL)
Solvent Coating Line Oven (ID No. ES-Oven SL)
Printer (ID No. ES-P)**

1. 15A NCAC 02D .0515, “Particulates from Miscellaneous Industrial Processes”

The allowable emission rates for particulate matter from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable, shall not exceed the level calculated using the following equations:

$$E = 4.10 \times P^{0.67} \quad \text{(for process rates less than or equal to 30 tons per hour), or}$$

$$E = 55.0 \times P^{0.11} - 40 \quad \text{(for process rates greater than 30 tons per hour)}$$

Where: E = allowable emission rates in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process rate.

No other particulate matter emission control standards are applicable to any industrial processes at the Pregis facility, and thus, Rule .0515 applies. Particulate matter emissions results from combustion of fuel. Pregis will comply with this emission standard through the use of natural gas in its combustion devices.

2. 15A NCAC 02D .0516 – Sulfur Dioxide Emissions from Combustion Sources

This regulation applies to combustion sources. The RTO and the ovens for each coating line and printer are subject to this regulation. It limits the emission of SO₂ from any source of combustion that is discharged from any vent, stack, or chimney is 2.3 lb SO₂/million Btu input. Using the emission factor of 0.6 lb SO₂/million scf from AP-42 Table 1.4-2 (Natural Gas Combustion, rev. 07/98), the following equations demonstrate compliance with this regulation.

$$\text{SO}_2 \text{ Natural Gas} = (0.6 \text{ lb SO}_2/\text{million scf}) \times (\text{million scf}/1,020 \text{ Btu}) = 0.00059 \text{ lb SO}_2/\text{million Btu}$$

$$0.00059 \text{ lb SO}_2/\text{million Btu} < 2.3 \text{ SO}_2/\text{million Btu}$$

The RTO and the ovens for each coating line and printer combust natural gas and will comply with this emission standard.

3. 15A NCAC 02D .0521 – Control of Visible Emissions

This rule applies to all fuel burning sources and other industrial processes that may have visible emissions and are not subject to visible emissions standards in Rules 15A NCAC 02D .0506, .0508, .0524, .0543, .0544, .1110, .1111, .1206, or .1210. No sources at the Pregis facility are subject to visible emission standards in the listed Rules; thus, Rule 15A NCAC 02D .0521 applies.

Visible emissions from the solvent coater lines and printer will exhaust out of the RTO and are limited to no more than 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. In no event shall the six-minute average exceed 87 percent opacity. Pregis will comply with this rule.

B. Facility-Wide

1. 15A NCAC 02D .0535 – Excess Emissions Reporting and Malfunctions

This facility is subject to this regulation. In accordance with section (f) of this regulation, the Permittee must notify the DAQ in the event of a source of excess emissions that lasts for more than four (4) hours and that results from a malfunction, a breakdown of process or control equipment, or any other abnormal conditions.

Pursuant to 15A NCAC 02D .0535 (b) which states that this rule does not apply to sources to which 15A NCAC 02D .0524 applies, emission sources (ID Nos. ES-SL, ES-Oven SL, I-Ovens B, and I-Ovens F) are subject to 40 CFR 60, Subpart RR. Therefore, they are not subject to 15A NCAC 02D .0535. Emission sources (ID No. ES-P, I-Ovens P, I-Coating B, I-Coating F, I-CT B, and I-CT F) are not subject to an NSPS, therefore are subject to 15A NCAC 02D .0535.

2. 15A NCAC 02D .0540 – Particulates from Fugitive Dust Emission Sources

This facility is subject to this regulation and prohibits fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions. Compliance is assured as there are no sources of fugitive dust emissions at the facility.

3. 15A NCAC 02D .1806 – Control and Prohibition of Odorous Emissions (State-Enforceable Only)

The facility is subject to this regulation because it has the potential to be a source of odorous emissions. It requires the facility to utilize management practices or odor control equipment sufficient to prevent odorous emissions from causing or contributing to objectionable emissions beyond the facility boundaries.

Permit Application Submittal Requirement

15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting – Pursuant to 15A NCAC 02Q .0501(b)(2) or (c)(2), for completion of the two-step significant modification process initiated by Application No. 4100772.22A, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 no later than **Month XX, 2023**.

Reporting Requirement – The Permittee shall notify the Regional Office in writing of the date of beginning operation of any of these source(s) (ID Nos. ES-SL, ES-Oven, and EP-P), postmarked no later than 30 days after such date.

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

NSPS

New Source Performance Standards (NSPS): 40 CFR 60, Subpart RR, *Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations* applies to any facility that manufactures surface protection adhesive films that are adhesive coated and printed which began construction, modification, or reconstruction after December 30, 1980. Individual coating lines are subject to the standards contained in 40 CFR 60.442(a) if the amount of material put into the coating line while making pressure sensitive tape and labels is greater than 45 megagrams (50 tons) or more VOC per 12-month period. Based on these conditions, the new solvent coating line (ID No. ES-SL), drying oven (ID No. ES-SL Oven), I-Ovens (4 Ovens for Coating Line B), and I-Ovens F (Ovens for Coating Line F) are subject to this subpart.

Pregis will demonstrate compliance with the standard for VOC by conducting a performance test on the RTO and showing a 90 percent overall VOC emission reduction as calculated over a calendar month. Since compliance will be achieved through the use of a solvent destruction device, Pregis will continuously record the destruction device combustion temperature during coating operations. A performance test on the RTO will be conducted according to 40 CFR 60.444(c).

Pregis will maintain records of the manufacturer's formulation data used to determining the VOC content, a 12-month record of the amount of solvent applied in the coating, and the temperature of the solvent destruction device's exhaust gases.

NESHAPS/MACT

National Emissions Standards for Hazardous Air Pollutants (NESHAP) are emission standards for HAP and are applicable to major and area sources of HAP. A HAP major source is defined as having potential emissions of 10 tpy or more for any individual HAP and/or potential emissions of 25 tpy or more for total HAP. An area source is a stationary source that is not a major source. Part 63

NESHAP allowable emission limits are established on the basis of a Maximum Achievable Control Technology (MACT) determination for major sources in a particular source category. For area sources, allowable limits are based on generally available control technology (GACT).

The Pregis facility is classified as an area source because it has potential HAP emissions less than the major source thresholds, as shown in Table 2 in Section VIII. The Pregis facility is not subject to any NESHAP standards.

PSD

North Carolina has implemented the federal PSD requirements of 40 CFR 51.166 under North Carolina Regulation 15A NCAC 02D .0530. The PSD program regulates emissions from major stationary sources of regulated air pollutants. For the purposes of the PSD program, a major stationary source is defined as any one of the following;

1. *Any stationary source that is listed as one of the 28 named source categories in Title 40 of the Code of Federal Regulations (40 CFR), Part 51.166(b)(1)(i) which emits, or has the potential to emit, 100 tons per year (tpy) or more of any pollutant subject to regulation under the ACT;*
2. *Any stationary source that is not listed as one of the 28 named source categories in 40 CFR Part 51.166(b)(1)(i) which emits, or has the potential to emit, 250 tons per year (TPY) or more of any pollutant subject to regulation under the ACT.*

The Pregis facility is not one of the twenty-eight named PSD source categories for which the major source threshold is 100 tons per year of any criteria pollutant (e.g., VOC). The PSD major source threshold for each regulated criteria pollutant is 250 tpy. The potential emissions of all regulated pollutants at the Pregis facility are below 250 tpy. Therefore, Pregis will be considered a minor source under PSD.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule.

CAM

40 CFR Part 64 is applicable to any pollutant-specific emission unit, if the following three conditions are met:

- the unit is subject to any (non-exempt: e.g. pre November 15, 1990, Section 111 or Section 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 either 100 tpy (for criteria pollutants) or 10/25 tpy (for HAP's).

Emissions from the solvent coater and printer are potentially subject to CAM due to the applicability of 40 CFR 60 Subpart RR. Specifically, under 40 CFR 64, units with emission limits for which Title V Permit Conditions include a continuous compliance determination monitoring requirement are exempt from requiring a CAM plan. Part 64 defines a continuous compliance determination method as "a method specified by the applicable standard or an applicable permit condition, which is used to determine compliance with an emission limitation or standard on a continuous basis, consistent with

the averaging period established for the emissions limitation or standard and provides data either in units of the standard or corrected directly with the compliance limit.” To be in compliance with 40 CFR 60 Subpart RR, Pregis will track and calculate monthly VOC emissions, continually monitor and record RTO combustion temperature, and continually monitor and record exhaust gas temperature. These recordkeeping methods are considered a continuous compliance determination method; therefore, will not be subject to CAM requirements. Samir Parekh (SSCB) disagrees with Pregis’s assessment of the CAM applicability for the RTO (ID No. CD-RTO). Samir states via email (December 30, 2022) that the continuous monitoring and recording of the temperature for a RTO is not considered a “continuous compliance determination method (CCDM) by DAQ (40 CFR Part 64.1 Definitions) and that Pregis’s is subject to CAM. A CAM plan will not be required because the facility is using a two-step permitting process outlined in 15A NCAC 02Q .0501(b)(2). A CAM plan will not be required until the first renewal. As the sources are not defined as large PSEUs under Part 64, CAM is not required now.

VII. Facility Wide Air Toxics

15A NCAC 02D .1100 – Control of Toxic Air Pollutants

This regulation establishes rules for emissions of toxic air pollutants (TAPs). It is applicable to all facilities that require a TAP permit under 15A NCAC 02Q .0700. As discussed below in 15A NCAC 02Q .0711, this facility is not required to obtain a TAP permit. Therefore, this facility is not subject to this regulation.

15A NCAC 02Q .0711 – Toxic Air Pollutant Emission Rates Requiring a Permit (State-Enforceable Only)

This regulation prohibits the emission of TAPs above 15A NCAC 02D .1100 applicable rates without receiving a permit. Facility-wide potential emissions of all TAPs at the Pregis facility from regulated emission sources (natural gas-fired external combustion sources with an aggregate allowable heat input value of less than 450 million Btu per hour that are the only source of benzene at a facility are exempt per 15A NCAC 02Q .0702) fall below applicable thresholds; therefore, Pregis is not required to obtain a TAP permit.

VIII. Facility Emissions Review

Sources of combustion include the RTO, ovens for the new and existing lines, and comfort heaters. The comfort heaters are considered insignificant activities because of category per 15A NCAC 02Q .0503(7)(d) as they are heating units used for human comfort and have heat input ratings of less than 10 million Btu/hr, and as such, are not included in facility-wide potential emissions per 15A NCAC 02Q .0502(d).

Potential emissions from natural gas combustion associated with the RTO, existing ovens, and proposed oven were calculated based on their maximum firing rates and emission factors from EPA’s AP-42, Fifth Edition, Volume 1, Section 1.4 Natural Gas Combustion for boilers with ratings < 100 million Btu per hour and the NCDEQ Natural Gas Combustion Spreadsheet. The potential emissions calculations assume emission factors based on an average natural gas high heating value of 1,020 Btu/scf per AP-42 Section 1.4 Natural Gas Combustion.

Existing ovens are considered insignificant activities per 15A NCAC 02Q .0503(8) as the potential emissions from each unit are below insignificant activity thresholds. However, these units have been

included for facility-wide aggregation of source emissions. A summary of facility-wide potential emissions is shown in Table 1 below.

Table 1. Facility-Wide Potential Emissions

Pollutant	Potential Emissions¹ (tpy)	Title V Major Source Threshold (tpy)	Above Threshold?	PSD Source Threshold² (tpy)	Above Threshold?
NO _x	11.67	100	No	250	No
CO	12.26	100	No	250	No
VOC	221.47	100	Yes	250	No
PM ₁₀	1.11	100	No	250	No
PM _{2.5}	1.11	100	No	250	No
SO ₂	0.09	100	No	250	No
Total HAP	1.78	25	No	N/A	N/A
CO _{2e}	17,541	N/A	N/A	N/A	N/A

¹Includes permitted sources, CD-RTO, and insignificant sources (except comfort heaters that are insignificant because of category).

²Pregis operations are not on the list of 28 sources for which there is a lower PSD major source threshold [40 CFR 52.21(b)(1)(i)(a)].

See Table in the header for a summary of the actual emissions as reported to DAQ for the year 2013.

IX. Stipulation Review

The facility was last inspected by Donna Cook on **January 27, 2021**. Based on her observations the facility appeared to be in compliance with the air quality rules.

X. Affected State(s) Review

Pregis has triggered one of the three Environmental Justice (EJ) criteria (Greenfield/new Title V). DAQ has provided the Department of Environmental Quality with Pregis's address. A summary sheet of enhanced outreach recommendations and the draft permit are required to go to 30-day public comment.

XI. Conclusions, Comments, and Recommendations

A professional engineer's seal **WAS** required for this new permit and was submitted with the application.

A zoning consistency determination was submitted for this new permit.

MRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with MRO's recommendation to issue Title V Air Permit 10767R00.