NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Wilmington Regional Office
County: Brunswick
NC Facility ID: 1000083
Inspector's Name: Ashby Armistead
Date of Last Inspection: 03/30/2021
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Technical Coating International, Inc.

Facility Address:
Technical Coating International, Inc.
150 Backhoe Road
Leland, NC 28451

SIC: 3089 / Plastics Products, Nec
NAICS: 337215 / Showcase, Partition, Shelving, and Locker Manufacturing

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

Permit Applicability (this application only)

SIP: 02D .0515, .0516, .0521
NSPS: NA
NESHAP: 02Q .0317 (MACT Avoidance)
PSD: NA
PSD Avoidance: 02Q .0317
NC Toxics: 02D .1100
112(r): NA
Other: 02D .1806

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Ken Sowers Operations Manager (910) 371-0860 150 Backhoe Road Leland, NC 28451	Ken Sowers Operations Manager (910) 371-0860 150 Backhoe Road Leland, NC 28451	Ken Sowers Operations Manager (910) 371-0860 150 Backhoe Road Leland, NC 28451

Application Data

Application Number: 1000083.21A
Date Received: 09/28/2021
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 07436/T10
Existing Permit Issue Date: 07/06/2017
Existing Permit Expiration Date: 06/30/2022

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	---	0.6500	128.34	0.5400	---	1.55	1.55 [Toluene]
2019	---	0.7300	98.54	0.6100	0.0400	1.44	1.44 [Toluene]
2018	---	0.4300	111.32	0.3600	0.0300	9.90	9.90 [Toluene]
2017	---	0.1200	87.31	0.1000	0.0100	0.6200	0.6200 [Toluene]
2016	---	0.1600	130.31	0.1300	0.0100	0.1407	0.1400 [Toluene]

Review Engineer: Eric L. Crump, P.E.

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

Comments / Recommendations:
Issue: 07436T11
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application

Technical Coating International, Inc. (hereinafter referred to as TCI) is a plastic products manufacturing facility located in Leland, Brunswick County, North Carolina. The facility currently operates under Title V Permit No. 07436T10 with an expiration date of June 30, 2022. TCI has applied for renewal of their Title V air quality permit. The renewal application was received on September 28, 2021, which is at least six months prior to the expiration date as required by General Condition K of the current permit. 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.

Through permit application No. 1000083.21A, TCI has not indicated any sources to be added, removed, or modified within the existing permit.

2. Facility Description

TCI manufactures spools of laminate material which are used primarily for packaging by the electronics and computer industries (e.g., anti-static bags for electrical components, and "no light" bags for light sensitive printer cartridges). The main raw materials used by TCI are rolls of polyethylene and polypropylene. TCI has the capability to coat, laminate, lacquer, print, metalize, and slit plastic films, papers, coated fabrics, and foils.

The facility employs a thermal oxidizer (ID No. CD-1) to control the emissions of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from the four propane/natural gas-fired coaters/laminators (ID Nos. S1 through S4). The thermal oxidizer can only control emissions from one coater/laminator at a time. TCI only operates the thermal oxidizer when necessary to ensure that the facility stays below the major source emission limit for HAPs and to meet its PSD avoidance limit. TCI typically runs HAP coatings only a few times per year.

Rotogravure machines apply a precise amount of glue to one side of the material via small, engraved channels. The two materials are then pressed together, and oven cured by the machine. Coatings are applied the same way and then sent through the oven.

3. Application Chronology

July 6, 2017	Division of Air Quality (DAQ) issues Permit No. 07436T10 to TCI as a Title V renewal.
June 23, 2021	TRC Environmental Corporation conducts volatile organic compound (VOC) emissions testing of thermal oxidizer (ID No. CD-1) at TCI. Permit No. 07436T10 requires TCI to conduct the testing and submit the results with the permit renewal application.
September 28, 2021	DAQ receives permit renewal application.
February 17, 2022	Stationary Source Compliance Branch (SSCB) sends review of June 23, 2021 TCI stack test to Wilmington Regional Office (WiRO) and DAQ.
March 8, 2022	Draft permit and review sent for DAQ supervisory review.

March 29, 2022	DAQ supervisor provides comments on draft permit and review
April 25, 2022	DAQ sends draft permit and review to TCI for review and comment.
May 16, 2022	DAQ sends draft permit and review to WiRO for review and comment.
May 26, 2022	DAQ receives comments on draft permit from WiRO.
June 8, 2022	DAQ receives comments on draft permit and review from TCI.
MM DD YY	Permit renewal notice published, 30-day public notice and comment period begins, and 45-day EPA comment period begins.
MM DD YY	30-day public notice and comment period ends.
MM DD YY	45-day EPA comment period ends.

4. Changes to Permit and Title V Equipment Editor (TVEE) Discussion

The following table summarizes changes made to the current TCI permit as a result of this permit renewal (or modification):

Page No.	Section	Description of Changes
Cover and throughout	---	• Updated all dates and permit revision numbers • Changed all citations of 15A NCAC 2D to 15A NCAC 02D • Changed all citations of 15A NCAC 2Q to 15A NCAC 02Q
Insignificant Activities List	Attachment	Moved to Section 3, Insignificant Activities per 15A NCAC 02Q .0503(8)
Table of Contents	---	Added new Section 3, Insignificant Activities per 15A NCAC 02Q .0503(8)
List of Acronyms	---	Moved from end of Section 3 to follow Table of Contents
4	1 2.1 A	Deleted page number column in accordance with updated DAQ format for source/control device table Deleted page number column in accordance with updated DAQ format for source/control device table
5	2.1 A.1 2.1 A.2	Updated section to reflect the most current stipulations for 15A NCAC 02D .0515 Updated section to reflect the most current stipulations for 15A NCAC 02D .0516
6	2.1 A.4.e	Added new paragraph e with current stipulations for confirming/reestablishing operating limits during performance tests. Relettered subsequent paragraphs in this section accordingly.
7	2.1 A.4.i 2.1 A.4.k	Revised definition of the variable “C” to reflect most recent emissions testing conducted on June 23, 2021 Added noncompliance statement

Page No.	Section	Description of Changes
8	2.1 A.6.b	Deleted "found in Section 3"
	2.1 A.6.c	Restructured paragraph to have two subparagraphs (i and ii) instead of a single subparagraph i
	2.1 A.6.d	Added new paragraph e with current stipulations for confirming/reestablishing operating limits during performance tests. Relettered subsequent paragraphs in this section accordingly.
9	2.1 A.6.h	Reformatted equations, made minor edits to variable definitions, and revised definition of the variable "C" to reflect most recent emissions testing conducted on June 23, 2021
10	2.1 A.6.j	Added noncompliance statement
11	3	Changed Section 3 from "General Conditions" to "Insignificant Activities per 15A NCAC 02Q .0503(8)"
12-20	4	• Moved General Conditions to new Section 4 • Updated General Conditions to Version 6.0 dated January 7, 2022

No changes to the TVEE were required as a result of this renewal.

5. Description of Changes and Estimated Emissions

Since the TCI air permit was last renewed, no physical changes have occurred to the facility that have affected emissions.

TCI is required by Section 2.1 A.4.c of Permit No. 07436T10 to ". . . conduct a performance test to establish the proper operating temperature of the thermal oxidizer **(ID No. CD-1**) and to establish the capture efficiency and destruction efficiency of the permanent total enclosure and thermal oxidizer **(ID No. CD-1).** As determined during the approved October 27, 2016 stack test, the control efficiency of the thermal oxidizer was established as 0.994, or 99.4% at the combustion temperature of 1341 degrees Fahrenheit (°F).

Section 2.1 A.4.d of the same permit states: "Periodic testing of the oxidizer **(ID No. CD-1)** shall be repeated and submitted with each permit renewal application." TRC Environmental Corporation conducted the testing required for renewal application No. 1000083.21A on June 23, 2021. As discussed in the review of the stack test results[1], the average temperature for CD-1 was 1283 °F, which is lower than the minimum operating temperature of 1341 °F required in the permit, and as previously established. The emissions test results demonstrated a destruction/removal efficiency (DRE, often referred to as control efficiency) of 98.4 %, which is lower than the previously established efficiency of 99.4%. These values still indicate a high level of VOC emissions control from the thermal oxidizer. This decrease in control efficiency will result in an increase in the quantity of VOC and HAP emissions estimated by the emissions equations in Sections 2.1 A.4.d and 2.1 A.6.g (which are essentially identical equations, except VOCs are used in calculating VOC emissions, and HAPs are used in calculating HAP emissions). The equation is shown below.

[1] Memo from Brent Hall, Stationary Source Compliance Branch (SSCB) to Brad Newland, Wilmington Regional Office Supervisor, February 17, 2022.

For single VOC (or HAP) emissions:

$$E_i = \sum_{j=1}^{p} [A_j \times B_j \times (1 - C)]$$

For all VOC (or HAP) emissions:

$$E = \sum_{i=1}^{n} E_i$$

Where: E is the emission rate per month of all VOCs (or HAPs)
E_i is the emission rate per month of each single VOC i (or HAP i)
A_j is the total amount of type j of VOC (or HAP)-containing material consumed during the month
B_j is the VOC (or HAP) content of material type j
C is the control efficiency of the thermal oxidizer (determined by stack testing)
n is the total number of individual VOCs (or HAPs) emitted
p is the total number of types of VOC (or HAP)-containing material consumed during the month

The factor (1 – *C*), which is based on the control efficiency of the thermal oxidizer, is essentially a constant in this formula.

- Using the previous control efficiency of 0.994, (1 – *C*) = (1- 0.994) = 0.006.
- Using the newer control efficiency of 0.984, (1 – *C*) = (1 – 0.984) = 0.016, which would result in VOC or HAP emissions increasing by 167%.

Use of the newer control efficiency would appear to be a significant increase. However, when the 1.67 multiplier is applied to the VOC and HAP emissions reported in the most recent TCI emission inventories numbers as shown in the following table, total VOC emissions from the facility would still be below the 250 ton per year limit. Total HAP emissions would still be below the 25 tons per year level for a major source of HAP. With the exception of the year 2018, toluene emissions (the largest quantity of a single HAP emitted) would be below the major source level of 10 tons per year.

Calendar Year	Emissions in Tons per Year					
	VOC	VOC × 1.67	Total HAP	Total HAP × 1.67	Largest Single HAP (Toluene)	Largest Single HAP (Toluene) × 1.67
2020	128.34	214.33	1.55	2.58	1.55	2.59
2019	98.54	164.56	1.44	2.40	1.44	2.40
2018	111.32	185.90	9.90	16.53	9.90	16.53
2017	87.31	145.81	0.6200	1.04	0.6200	1.04
2016	130.31	217.62	0.1407	0.235	0.1400	0.2338

Therefore, continued compliance is expected with these changes to the VOC/HAP emission equation based on the results of the June 23, 2021 stack test. The VOC emissions will need to be monitored more

closely, as they at times have approached the 250 ton per year limit for PSD avoidance discussed in Section 9 of this review.

In addition, additional language has been added to Sections 2.1 A.4 (new paragraph e) and 2.1 A.6 (new paragraph d) of the permit renewal to clarify that operation of the coaters/laminators **(ID Nos. S1 through S4)** with the thermal oxidizer **(ID No. CD-1)** outside of the established minimum or maximum limits would constitute a period of noncompliance, except during performance tests conducted to determine compliance or establish new operating limits. This language has been added to give facilities the necessary flexibility to establish proper operating parameters for compliance with permit limits. This revision is not expected to result in exceedance of permitted emission limits. Continued compliance is expected.

6. Regulatory Review

TCI is subject to the following state regulations, in addition to the requirements in the General Conditions:

15A NCAC 02D .0515: Particulates from Miscellaneous Industrial Processes. This rule addresses emissions of particulate matter from stacks, vents, or outlets for any industrial process for which no other emission control standards apply. For such processes, the allowable emission rates shall not exceed the level calculated using one of the following equations, as appropriate:

$E = 4.10(P)^{-0.67}$ for process rates less than or equal to 30 tons per hour (ton/hr)

$E = 55.0(P)^{0.11} - 40$ for process rates greater than 30 ton/hr

Where:

E = allowable emissions limit for particulate matter in pounds per hour (lb/hr), and

P = process rate in ton/hr (i.e., the total weight per hour of all materials introduced into a specific process that may cause any emission of particulate matter. Liquid and gaseous fuels and combustion air are not included in the process weight).

The four propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)** are subject to this regulation. TCI is required to maintain the necessary production records so that the process rates for the coaters/laminators can be determined. Because coaters/laminators are fired with propane/natural gas, emissions of particulates from these sources should be well below the regulatory limits; therefore, no reporting of particulate emissions has been required. This permit renewal does not affect this status. The most current version of permit conditions for this regulation, which includes a stipulation stating that emissions reporting is not required, has been included in this permit renewal. Continued compliance is expected.

15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources. Under this regulation, emissions of sulfur dioxide (SO_2) from any source of combustion discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of SO_2 per million British thermal units (MMBtu) input. The four propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)** are subject to this regulation. Because of the low sulfur content in the fuels used, SO_2 emissions are expected to be minimal from these sources; therefore, no reporting of SO_2 emissions has been required. This permit renewal does not affect this status. Continued compliance is expected.

15A NCAC 02D .0521, Control of Visible Emissions. The intent of this rule is to prevent, abate, and control visible emissions generated from fuel burning operations and industrial processes where visible emissions are expected to occur. The rule establishes opacity limits for visible emissions from sources based on the date the sources were manufactured. Because the propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)** at TCI were manufactured after July 1, 1971, this regulation limits them to 20 percent opacity averaged over a six-minute period. The 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. Because the coaters/laminators are fired with propane/natural gas, visible emissions are expected to be minimal from these sources; therefore, no monitoring, recordkeeping, or reporting of visible emissions has been required. This permit renewal does not affect this status. Continued compliance is expected.

15A NCAC 02D .1100, Control of Toxic Air Pollutants. This is covered in Section 11 of this review.

15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions. This rule, which is state-enforceable only and applies facility-wide, provides for the control and prohibition of objectionable odorous emissions. applies facility-wide and. This rule requires TCI to implement management practices or install and operate odor control equipment sufficient to prevent odorous emissions from causing or contributing to objectionable odors beyond the facility's boundary. This permit renewal does not affect this status. Continued compliance is expected.

15A NCAC 02Q .0317, Avoidance Conditions. Under this regulation, the owner or operator of a facility may request that DAQ place terms and conditions be placed in that facility's permit to avoid the applicability of certain regulatory requirements. DAQ may require monitoring, recordkeeping, and reporting as needed to provide assurance that the avoidance conditions are being met. The TCI permit has avoidance conditions for the following regulations:

- 15A NCAC 02D .0530, Prevention of Significant Deterioration – see Section 9 of this review.
- 15A NCAC 02D .1111, Maximum Achievable Control Technology – see Section 7 of this review.

The permit has been updated to reflect the most current stipulations for all applicable regulations.

7. National Emission Standards for Hazardous Air Pollutants (NESHAPS): Maximum and/or Generally Achievable Control Technology (MACT/GACT)

TCI has accepted a 15A NCAC 02Q .0317 avoidance condition for 15A NCAC 02D .1111, Maximum Achievable Control Technology. This permit condition allows TCI to avoid the applicability of 40 CFR Part 63 Subpart JJJJ - National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coatings, provided they ensure that facility-wide emissions of hazardous air pollutants (HAPs) remain below 10 tons per year of a single HAP and 25 tons per year for all HAPs per 12-month period. No other NESHAPS or MACT regulations apply.

TCI is required to do the following:

- Conduct a performance test to establish the proper operating temperature of the thermal oxidizer **(ID No. CD-1)** and to establish the capture efficiency and destruction efficiency of the permanent total enclosure and thermal oxidizer.

- Repeat periodic testing of the oxidizer and to submit results with each permit renewal application. Testing was most recently conducted on June 23, 2021. This is discussed in further detail in Section 5 of this review.
- Maintain a temperature measuring device inside the unit (in the second half of the oxidizer away from the flame zone) to measure the combustion temperature, and maintain the temperature at or above 1341 degrees Fahrenheit.
- Perform inspections and maintenance on the oxidizer per manufacturer recommendations (at minimum, an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves to ensure structural integrity; and inspection, cleaning, and calibration of all associated instrumentation), and keep records of the inspections and maintenance in a logbook.
- Calculate the HAP emissions from the propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)** on a monthly basis (using the specified formulas in the permit) to ensure facility-wide emissions remain below 10 tons per year of a single HAP and 25 tons per year for all HAPs per 12-month period. The thermal oxidizer (CD-1) is required to be operated only as necessary to achieve compliance with the HAP limitations. The most recent emissions testing resulted in revisions to the HAP emissions calculation method in the permit. This is discussed in further detail in Section 5 of this review.
- Maintain in a logbook the number of hours each coater/laminator operates per month, the coater/laminator meter readings at the end of each month, a list of all batches or formulations used on each coater/laminator during each month, the total number of hours each formulation was used each month, and the collective monthly HAP emissions from each coater/laminator.
- For control device operation to be considered, ensure the total enclosure meets the criteria specified in EPA Method 204 of 40 CFR Part 51.

This permit renewal does not affect this status. Continued compliance is expected.

8. New Source Performance Standards (NSPS)

The TCI facility is not subject to any NSPS. This permit renewal does not affect this status.

9. New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

The TCI facility is a major source for PSD due to VOC emissions. It is located in Brunswick County, which is in attainment for all criteria pollutants. TCI has previously accepted two avoidance conditions for PSD: less than 250 tons per year of VOC emissions from coater/laminators S1 and S2, and less than 250 tons per year of VOC emissions from coater/laminators S3 and S4.

TCI is required to perform the following maintenance, recordkeeping, and reporting:

- Conduct a performance test to establish the proper operating temperature of the thermal oxidizer (CD-1) and to establish the capture efficiency and destruction efficiency of the permanent total enclosure and thermal oxidizer.
- Repeat periodic testing of the oxidizer and to submit results with each permit renewal application. Testing was most recently conducted on June 23, 2021. This is discussed in further detail in Section 5 of this review.
- Maintain a temperature measuring device inside the unit (in the second half of the oxidizer away from the flame zone) to measure the combustion temperature, and maintain the temperature at or above 1341 degrees Fahrenheit.

- Perform inspections and maintenance on the oxidizer per manufacturer recommendations (at minimum, an annual internal inspection of the primary heat exchanger and associated inlet/outlet valves to ensure structural integrity; and inspection, cleaning, and calibration of all associated instrumentation), and keep records of the inspections and maintenance in a logbook.
- Calculate the VOC emissions from the propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)** on a monthly basis (using the specified formulas in the permit) to ensure less than 250 tons per year of VOCs are emitted from coater/laminators S1 and S2, and less than 250 tons per year of VOCs are emitted from coater/laminators S3 and S4. The thermal oxidizer (CD-1) is required to be operated only as necessary to achieve compliance with the HAP limitations. The most recent emissions testing resulted in revisions to the VOC emissions calculation method in the permit. This is discussed in further detail in Section 5 of this review.
- Maintain in a logbook the number of hours each coater/laminator operates per month, the coater/laminator meter readings at the end of each month, a list of all batches or formulations used on each coater/laminator during each month, the total number of hours each formulation was used each moth, and the collective monthly HAP emissions from each coater/laminator.
- For control device operation to be considered, ensure the total enclosure meets the criteria specified in EPA Method 204 of 40 CFR Part 51.
- Submit semi-annual summary reports with the following information for the previous 17 months: monthly product usage and VOC content, monthly VOC emissions, and total number of days the thermal oxidizer was in operation.

This permit renewal does not affect this status. Continued compliance is expected.

10. Risk Management Plan (RMP) Requirements

40 CFR Part 68 requires stationary sources storing more than threshold quantities of regulated substances to develop a RMP in accordance with Section 112(r) of the Clean Air Act. The RMP lists the potential effects of a chemical accident at the facility, steps the facility is taking to prevent an accident, and emergency response procedures to be followed if an accident should occur.

TCI 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 thresholds in the Rule. This permit renewal does not affect the 112(r) status of the facility.

10. Compliance Assurance Monitoring (CAM)

The CAM rule (40 CFR 64) applies to each pollutant specific emissions unit located at a major source that is required to obtain a Title V, Part 70 or 71 permit if it meets all of the following criteria:

- It is subject to an emission limitation or standard, and
- It uses a control device to achieve compliance, and
- It has potential pre-control emissions that equal or exceed the major source threshold (i.e., either 100 tpy for criteria pollutants, 10 tpy of any individual HAP, or 25 tpy of any combination of HAP).

The following emission limitations or standards are exempted from the CAM rule:

- NSPS or NESHAP standards proposed after November 15, 1990;

- Stratospheric ozone protection requirements under Title VI of the Clean Air Act
- Acid rain program requirements;
- Emission limitations or standards or other requirements that apply solely under an approved emissions trading program;
- An emissions cap that meets requirements of 40 CFR 70.4(b)(12) or 71.6(a)(13);
- Emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method, as defined in 40 CFR 64.1, unless the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (e.g., a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).
- Certain municipally-owned utility units, as defined in 40 CFR 72.2.

Please note that the emission unit is not exempted from the CAM rule if nonexempt emission limitations or standards (e.g. a state rule or an older NSPS emission limits) apply to the emissions unit.

The only control device at TCI is the thermal oxidizer **(ID No. CD-1)**, which controls VOC and HAP emissions from the propane/natural gas-fired coaters/laminators **(ID Nos. S1 through S4)**. The following table outlines the regulations applicable to the facility and specifies if the control device is installed to meet an emission limit under the regulation.

Emission Source ID No(s).	**Control Device ID No(s).**	**Regulation***	**Control Equipment Installed to Meet Permit Limit?**
S1, S2, S3, and S4	CD-1	15A NCAC 02D .0515	Particulate matter – NO
		15A NCAC 02D .0516	Sulfur dioxide – NO
		15A NCAC 02D .0521	Visible emissions – NO
		15A NCAC 02Q .0317 – PSD avoidance	VOC – YES
		15A NCAC 02Q .0317 – MACT avoidance	HAP – YES
*NOTE: 15A NCAC 02Q .1100, Control of Toxic Air Pollutants is not included in the CAM analysis, because it establishes State-enforceable emission limits for toxic air pollutants. CAM does not apply to State only regulations.			

As discussed earlier in this review, TCI accepted two PSD avoidance conditions: one to limit VOCs from the coaters/laminators S1 and S2 to less than 250 tons per 12-month period and another placing the same limit on the coaters/laminators S3 and S4. The facility also accepted a MACT avoidance condition to limit HAPs to less than 10 tons/yr for any single HAP or 25 tons/yr for all HAPs combined. These PSD and MACT avoidance limits have been incorporated into the Title V permit. Under 15A NCAC 02D .0614(b)(1)(E), a facility that accepts an "emissions cap" approved under the rules of Subchapter 15A NCAC 02Q and incorporated into a permit issued under 15A NCAC 02Q .0500 is exempt from CAM. Therefore, TCI was exempted from CAM on the basis of these avoidance conditions, which serve as "emission caps." This permit renewal does not affect this status. TCI continues to be exempt from CAM requirements.

11. Facility-wide Air Toxics Review

Technical Coating is subject to the facility-wide emission limits shown in the following table, in accordance with 15A NCAC 02D .1100, "Control of Toxic Air Pollutants". These emission limits were established as a facility-wide worst-case single stack modeling demonstration.

Toxic Air Pollutant (CAS No.)	Modeled Emission Limit (lb/day)	Modeled Emission Limit (lb/hr)	Percentage of AAL[2]
Ethyl acetate (141-78-6)	NA	600	4% (1-hr AAL)
Methyl ethyl ketone (78-93-3)	3488	436	6.3 (15-minute AAL) 43.3% of 24-hr AAL
Toluene (108-88-3)	4448	560	10.0% (15-minute AAL) 34.1 % (24-hr AAL)
Toluene-2,4-diisocyanate (584-84-9)	0.512	0.064	7.9% (15-minute AAL) 68.0% (24-hr AAL)
Xylene (1330-20-7)	2536	317	8.6% (15-minute AAL) 59.3% (24-hr AAL)

To ensure compliance with these limits, TCI is required to calculate, compile, and record the following at the end of each month:

- the average hourly emission rate of each of the above North Carolina Toxic Air Pollutants (TAPs) from each batch or formulation run that month;
- the propane/natural gas-fired coater/laminator ID No., the batch or formulation ID, and the date(s), start time(s), and duration(s) of all runs which emit TAPs;
- In lieu of the above two records, TCI may demonstrate compliance by multiplying the maximum average hourly emission rate of each TAP for a month by the number of propane/natural gas-fired coaters/laminators available that month. If this result is less than the allowable hourly emission rate for each TAP, then compliance is demonstrated.

TCI must keep records of all monitoring activities in a logbook on-site and make it available for review upon request. Furthermore, TCI is required to submit quarterly reports which include both of the maximum facility wide hourly and daily emission rates of each TAP for each month. Also, pursuant to 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit," TCI must operate and maintain the facility so that any TAP emissions (including fugitive emissions) not listed in this Specific Condition shall not be emitted above the emission levels listed in 15A NCAC 02Q .0711.

Based on the most recent inspection, Technical Coating has been complying with this regulation. Continued compliance will be determined during subsequent inspections.

12. Facility Emissions Review

The table in the header page of this review summarizes emissions TCI has reported for the years 2016 through 2020 in the annual emissions inventories after application of required emission controls. As shown, facility-wide VOC emissions have not exceeded 130.31 tons/yr during this period. With the exception of 2018, facility-wide HAP emissions (primarily toluene) have been well below 2 tons per year.

[2]Memorandum from H. Manfrediz (DEM/Air Quality Analysis Unit) to B. Cochran (WiRO). Review of Toxics Dispersion Modeling for Technical Coatings International, Inc., Leland, North Carolina, Brunswick County. December 22, 1993.

13. Compliance History and Status

The following chronology dates from when the TCI permit was last renewed on July 6, 2017.

August 2, 2017	Mark Hedrick, Wilmington Regional Office (WiRO), conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
December 12, 2017	Mark Hedrick, WiRO, conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
August 7, 2018	Mark Hedrick, WiRO, conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
December 19, 2018	Mark Hedrick, WiRO, conducts facility compliance inspection. 14 hourly readings for the thermal oxidizer were discovered to be below the minimum required operating temperature. A Notice of Deficiency (NOD) will be issued for the recording deviations. Facility appeared to be operating in compliance with all other permit requirements.
December 26, 2018	Ken Robichaud, TCI, sends email to WiRO explaining why the thermal oxidizer readings were below the minimum required operating temperature. A new employee had incorrectly documented the oxidizer temperature during periods of coater shutdown.
March 4, 2019	DAQ issues NOD to TCI for failure to maintain the combustion temperature of the thermal oxidizer at or above 1341 degrees Fahrenheit, as required under Sections 2.1 A.4.g.ii and 2.1 A.6.f.ii of Air Permit No. 07436T10.
March 30, 2021	Ashby Armistead, WiRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.

In summary, with the exception of a reporting error due to an inexperienced employee, TCI appears to be in compliance with all permit requirements. Continued compliance is expected.

14. 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 is provided to the public under 02Q .0521 above.

South Carolina is an affected state within 50 miles of the facility. There are no affected local programs within 50 miles of the facility.

Notice of the DRAFT Title V Permit to Affected States ran from MM DD, 2022, to MM DD, 2022.
Discuss any comments received from Affected States or Local Programs.

Public Notice of the DRAFT Title V Permit ran from MM DD, 2022, to MM DD, 2022. ***Discuss any public comments received.***

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from MM DD, 2022, to MM DD, 2022. ***Discuss any comments received from EPA and U.S. EPA Region 4 regarding the DRAFT Title V Permit.***

15. Other Regulatory Considerations

The following items were not required in Permit Application No. 1000083.21A:

- Professional Engineer's seal
- Zoning consistency determination
- Permit fee.

16. Recommendations

DAQ has reviewed the permit application(s) for Technical Coating International, Inc. located in Leland, Brunswick County, North Carolina to determine compliance with all procedures and requirements. DAQ has determined that 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. 07436T11.