NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: XXX xx, 2021

Region: Mooresville Regional Office
County: Catawba
NC Facility ID: 1800184
Inspector's Name: Jim Vanwormer
Date of Last Inspection: 03/02/2020
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Sonoco Hickory, Inc. - Hickory Plant

Facility Address:
Sonoco Hickory, Inc. - Hickory Plant
1246 Main Avenue SE
Hickory, NC 28602

SIC: 2673 / Bags: Plastics, Laminated And Coated
NAICS: 326111 / Plastics Bag 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 2D .0515, 02D .05210,2D .0516, 02D .0530, 02D .1111, 02D .1100, 02Q .0501(b)(2), and 02Q .0112
NSPS: Subpart JJJJ
NESHAP: Subpart ZZZZ
PSD: 40 CFR §51.166(w)(10) & (5),
PSD Avoidance: N/A
NC Toxics: (NCGS) 143-215.107(a)(5) (House Bill 952)
112(r): N/A
Other: 40 CFR Part 64, Section 112(r), and (G.S. 143-215.108)

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Justin Seidel Plant Engineer (828) 449-2296 PO Box 2029 Hickory, NC 28603	Ron Milz Division Vice President, Manufacturing (843) 339-6633 PO Box 2029 Hickory, NC 28603	Justin Seidel Plant Engineer (828) 449-2296 PO Box 2029 Hickory, NC 28603

Application Data

Application Number: 1800184.20A
Date Received: 06/01/2020
Application Type: Renewal & PAL Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 04691/T31
Existing Permit Issue Date: 04/23/2021
Existing Permit Expiration Date: 03/31/2026

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	---	0.7700	254.00	0.6400	---	0.0284	0.0280 [Glycol Ethers, Unlisted - Spec]
2018	---	0.6300	361.46	0.5300	---	0.0172	0.0117 [Glycol Ethers, Unlisted - Spec]
2017	0.0100	0.2100	296.52	0.1800	---	0.0348	0.0345 [Glycol Ethers, Unlisted - Spec]
2016	0.0100	0.2300	292.63	0.1900	---	0.0964	0.0959 [Glycol Ethers, Unlisted - Spec]
2015	0.0200	0.3300	327.73	0.2800	0.0200	0.0810	0.0807 [Glycol Ethers, Unlisted - Spec]

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:** XXX xx, 2021

Comments / Recommendations:
Issue 04691/T32
Permit Issue Date: XXX xx, 2021
Permit Expiration Date: XXX xx, 2026

I. Facility Description.

The facility provides custom printing of plastic film using flexographic printing presses.

Flexographic printing presses use flexible photopolymer printing plates to imprint images across a wide range of surfaces, for large volume requirements. Generally, ink is introduced to rollers which pick up the ink. These rollers then transfer the ink to flexible plates wrapped around cylinders. These cylinders then lay the graphic onto label papers as it passes through the presses at a high speed. This process is mainly used for labels and packaging

II. Purpose of Application.

A. The facility has submitted an application to obtain the renewal of their existing Actuals Plant-wide Applicability Limitation (PAL) for Volatile Organic Compounds.

Section 2.3 of the current permit is for the Actuals Plantwide Applicability Limitation (PAL) for VOC emissions for the facility wide operations

This Actuals PAL, was obtained to simplify compliance assurance, obtain operational flexibility, react quickly to market demand, and provide clarity for planning future modernization of the facility. This limit obtained on December 15, 2010 expires on, December 31, 2020.

B. Renewal of tile title V permit.

This permitting action is a renewal of an existing Title V permit pursuant to 15A NCAC 2Q .0513. This renewal application was received on 6/01/2020 when Air Quality Permit No. 04691T30 was in effect. This permit was issued on 09/19/2019 with an expiry date of 11/30/2020, or at least nine months 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.

On 3/31/2021 the consultant for the facility informed us “The Plant Engineer at Sonoco just contacted me and confirmed that IES-8 and IES-9 have been taken out of service (removed). These sources can be removed from the permit.”

III. Regulatory Review

A. Renewal for Actuals Plant-wide Applicability Limitations (PAL) for VOC Emissions.

The facility first applied for the current VOC PAL limit in May of 2010 (Application # 1800184.10A and the corresponding Air Quality Permit # 04691T20 was issued on December 15, 2010). (Note - The effective date for the VOC PAL in the current permit is listed as January 1, 2011)

The table below outlines the modification to their permit starting when their first PAL was issued (application # 1800184.10A, Air Quality Permit # 04691T20) to their current Air Quality Permit # 04691T31 where the facility has added several sources under this PAL as listed in the table below (this table also includes several modifications since renewal):

Application Chronology:

Application #	Air Quality Permit #	Purpose of Application
1800184.10A	04691T20	Added current PAL for VOC emissions
1800184.11A	04691T21	Requested change of effective date for PAL to facilitate the recordkeeping requirements.
1800184.10B	04691T22	Air Permit Renewal application.
1800184.12B	04691T23	Replacement of an existing laminator with a new like-for like laminator. Existing propane-fired emergency generator with a rating of 15 kW the generator is added to the permit.
1800184.13B	04691T24	Requested the insertion of the total capture and destruction efficiency of volatile organic compounds for presses (ID Nos. Press Line 12 and 13) attributable to the optional catalytic fume oxidizer (ID No. CD1).
1800184.13C	04691T25	Replacement of an emergency generator
1800184.14A	04691T26	Application meets the requirement for filing and application within 12 months of beginning operation of the thermal oxidizer.
1800184.15A	04691T27	Permit Renewal application.
1800184.16A	04691T28	Ownership change from: Plastic Packaging, Inc. To: Sonoco Products Company
1800184.17A	04691T29	Administrative amendment regarding name change.
1800184.18A	04691T30	Added another flexographic press and route the emissions to an existing catalytic oxidizer and reroute emissions from two existing presses from the catalytic oxidizer directly to atmosphere.
1800184.21A	04691T31	Added new regenerative thermal dual chamber oxidizer (RTO-1) constructed to replace and control volatile organic compounds (VOC) emissions from a flexographic press (Press 15) and the Press 15 ink room (Room-15).

1. Procedure of VOC PAL Renewal

The requirements for renewing an existing PAL are coded in Section 40 CFR §51.166(w)(10). This regulation requires the DAQ to follow the procedures specified in 40 CFR §51.166(w)(5) "Public participation requirements for PALs" in approving any request to renew a PAL for a major stationary source, and to provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comments.

Application deadline

As per 40 CFR §51.166(w)(10)(ii), the facility shall submit a timely application to DAQ at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed.

The application to renew the VOC PAL limit was received on 06/01/2020 and the VOC PAL in the current permit (Air Quality Permit No. 04691T30) expires on December 31, 2020. Thus, the renewal application was received at least 6 months prior to expiration of the VOC PAL limit. Furthermore, in accordance with §51.166(w)(10)(ii), when the applicant "submits a complete application to renew the

PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued."

Renewal Application requirements

40 CFR §51.166(w)(10)(iii)(a): The information required in renewal application are as specified in 40 CFR §51.166(w)(3)(i) through (iii).

40 CFR §51.166(w)(10)(iii)(b): A proposed PAL level for the same pollutant (VOC)

40 CFR § 51.166(w)(10)(iii)(c): The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).

40 CFR § 51.166(w)(10)(iii)(d): Any other information the applicant wishes DAQ to consider in determining the appropriate level for renewing the PAL.

As per the permit application requirements specified in 40 CFR §51.166(w)(3)(i), the applicant shall submit the following information:

- A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the applicant shall "indicate which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit."

- The rules that these sources are subject to are well documented in the current permit and there are no changes to these applicable requirements, emission limitations, or work practices for all the sources.

- The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by 40 CFR 51.166 (w)(13)(i).

Source designation is established in the Federal Register/Vol. 67, No. 251/Tuesday, December 31, 2002/Rules (page 80270):

1) Small emissions unit means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant,

2) Significant emissions unit means "an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal or greater than the significant level, and

3) Major emissions unit means any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area.

Catawba County is in attainment for all NSR Pollutants. The source category for VOC is mentioned in the table below:

Source Category	**PTE for VOC**
Small	< 40 tons
Significant emissions unit	≥ 40 but < 100
Major	> 100

The table below is a list of sources designated as small, significant or major based on the potential to emit in order to comply with 51.166(w)(10)(iv)(c):

Emission Unit IDs	Emission Unit Description	Pollutants Emitted	Source Designation Based on PTE
Press 12*	flexographic press with ten printing stations and a natural gas-fired drying oven	VOC	Major
Press 13*	flexographic press with ten printing stations and a natural gas-fired drying oven	VOC	Major
Press 14	flexographic press with eight printing stations and one natural gas-fired drying oven	VOC	Major
Press-15*	flexographic press with ten printing stations and two direct natural gas-fired dryers	VOC	Small
Room-15*	Press 15 ink room	VOC	Small
Laminator-6	less Laminator	VOC	Small
Laminator-14	Laminator, including a natural gas-fired dryer	VOC	Small
IES-1	Mixing Station	VOC	Small
IES-2, IES-3 & IES-4	Three solvent storage tanks	VOC	Small
IES-5, IES-6, & IES-7	Three ink storage tanks	VOC	Small
IES-8	Parts washing station	VOC	Small
IES-GEN	Natural gas-fired emergency generator	VOC	Small
IES-9	Printing plate washer	VOC	Small
IES-10	Wash tank	VOC	Small

*Each individual press that is not associated with the catalytic fume oxidizer (CD1) has a PTE greater than 100 TPY and is considered a major source. Press-15 and Room-15 are controlled with CD1 and the controlled PTE is less than 100 TPY, therefore these sources are defined "small".

List of VOCs emitting sources with their VOC emission factors, the basis of the emission factors, monitored parameters and their frequencies are listed in the table below:

Emission Unit ID	Description/ Category	VOC Emission Factors	Basis	Monitored Parameter
Press 12*	flexographic press with ten printing stations and a natural gas-fired drying oven	lb/lb Based on a mass balance of VOC content of material used.	Manufacturer Data	Material usage on a monthly basis. VOCs shipped off-site as hazardous waste is also monitored and subtracted from monthly VOC totals.
Press 13*	flexographic press with ten printing stations and a natural gas-fired drying oven			
Press 14	flexographic press with eight printing stations and one natural gas-fired drying oven			
Press-15*	flexographic press with ten printing stations and two direct natural gas-fired dryers			
Room-15*	Press 15 ink room			
Laminator-6	Solventless Laminator			

Emission Unit ID	Description/ Category	VOC Emission Factors	Basis	Monitored Parameter
Laminator-14	Laminator, including a natural gas-fired dryer			
IES-1	Mixing Station			
IES-2, IES-3 & IES-4	Three solvent storage tanks	Quantity of displaced vapors	AP-42 (Tanks 4.09d) Used potential throughput rates	N/A, maximum throughput used and default value recorded each month.
IES-5, IES-6, & IES-7	Three ink storage tanks	AP-42 (Tanks 4.09d)	Used potential throughput rates	N/A, maximum throughput used default value recorded.
IES-GEN	fired emergency generator	0.02 lb/hr	AP-42, 3.2-2 (4-stroke lean burn) using 0.18 lb/MMBtu	Hours operated
IES-10	Wash tank	Lb/lb	Manufacturer data	Quantity purchased and quantity shipped offsite as hazardous waste (accounted for in press emissions).

*80/20 portion ink and solvent dispensed to Presses 12, 13 14 and 15 (lbs of VOCs)

Per 40 CFR §51.166(w)(3)(ii), calculations of the baseline actual emissions (with supporting documentation) are required as part of the application for a PAL renewal. Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown, and malfunction.

In accordance with 40 CFR §51.166(w)(3)(iii), the calculation procedures that the applicant proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month are required as part of the application for a PAL renewal.

40 CFR §51.166(w)(10)(iv) requires DAQ to follow options in 40 CFR §51.166(w)(10)(iv)(a) and (b) in adjusting the PAL level for the pollutant. However, in no case may any such adjustment fail to comply with §51.166(w)(10)(iv)(c).

- 40 CFR §51.166(w)(10)(iv)(a): If the emissions level calculated in accordance with 40 CFR §51.166(w)(6) is equal to or greater than 80 percent of the PAL level, DAQ may renew the PAL at the same level without considering other factors.

- 40 CFR §51.166(w)(10)(iv)(b): DAQ may set the PAL at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the DAQ in its written rationale.

- 40 CFR §51.166(w)(10)(iv)(c)(1) & (2): Notwithstanding the above two options (40 CFR §51.166(w)(10)(iv) (a) and (b)) if the (true) potential to emit (based on physical limitations and not on any limit in the permit) of the major stationary source is less than the PAL, the DAQ shall adjust the PAL to a level no greater than the potential to emit of the source or the current PAL, whichever is lower.

Per 15A NCAC 02D .0530(i) in the DAQ's State Implementation Plan rules, the option per 40 CFR §51.166(w)(10)(iv)(a), which specifically states "the Director shall renew the PAL at the same level",

but 40 CFR 51.166(w)(10)(iv)(b) is not incorporated by reference into the DAQ's State Implementation Plan. Therefore, 15A NCAC 02D .0530 rules out the option listed in 40 CFR 51.166(w)(10)(iv)(b), above.

Also, as per 15A NCAC 02D .0530(v) "Portions of the regulations in the Code of Federal Regulations (CFR) that are referred to in this Rule" are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in North Carolina's SIP, with respect to 40 CFR 51.166, is that as of July 1, 2014.

Proposed PAL level for VOC Emissions

As per 40 CFR §40 CFR 51.166(w)(10)(iii)(b) the applicant shall submit a proposed PAL level during renewal.

The facility is proposing to keep the existing PAL level of 401 tons of VOC per year. This is based on meeting the requirements of 40 CFR §51.166(w)(10)(iv)(a) and 15A NCAC 02D .0530(i).

In determining how to adjust the PAL, DAQ shall consider the options outlined in 40 CFR §51.166(w)(10)(iv)(a) and (b) and as per 40 CFR §51.166(w)(10)(iv)(a) "if the emissions level calculated in accordance with paragraph (w)(6) of this section is equal to or greater than 80 percent of the PAL level, the reviewing authority may renew the PAL at the same level without considering the factors set forth in paragraph (w)(10)(iv)(b) of this section." Also, according to 15A NCAC 02D .0530(i), the DAQ Director shall renew the PAL at the same level.

The facility meets the emission test in 40 CFR §51.166(w)(10)(iv)(a) where emissions calculated in accordance with 40 CFR §51.166(w)(6) are greater than 80% of the current PAL level.

Total Emissions for VOC PAL as Calculated According to 40 CFR §51.166(w)(6) as follows:

VOC actual emissions and Baseline Actual Emissions (February 2017 to January 2019) from major existing sources (from Table of Appendix C - Baseline Actual Emission Calculations)

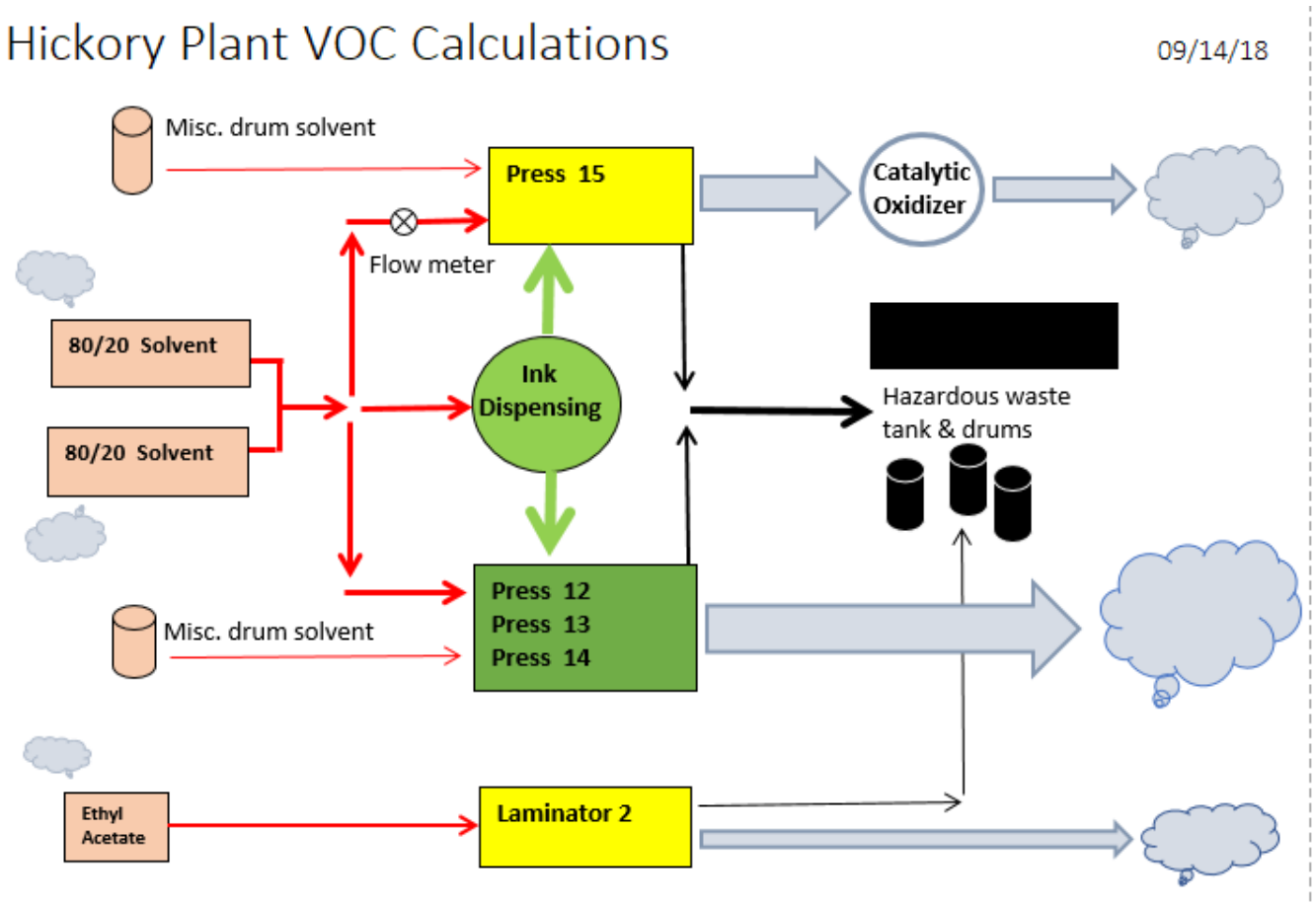
Month of Operation	**Facility-Wide VOC Emissions (tons/month)**	**12-month Baseline Actual Emissions (tons/year)***
February 2017	23.5	
March 2017	22.7	
April 2017	29.0	
May 2017	24.4	
June 2017	25.7	
July 2017	25.2	
August 2017	18.6	
September 2017	20.9	
October 2017	33.6	
November 2017	31.1	
December 2017	18.1	
January 2018	29.9	12 month Total = 302.7 tpy
February 2018	38.6	
March 2018	27.0	
April 2018	12.3	

Month of Operation	Facility-Wide VOC Emissions (tons/month)	12-month Baseline Actual Emissions (tons/year)*
May 2018	29.8	
June 2018	25.4	
July 2018	43.9	
August 2018	51.8	
September 2018	27.4	
October 2018	30.1	
November 2018	27.3	
December 2018	18.0	
January 2019	31.7	12 month Total = 363.4 tpy
Total Emissions for two years	666.1	--
***Two year average baseline actual emissions**	333.0	--
Annual PAL Limit	401.0	--
Percent of PAL	83.0%	--

* actual emissions = average rate, in tons per year, at which the emissions units actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding the date a complete permit application is received by NCDEQ.

Sample calculations showing the highest monthly VOC emissions from the highest emitting emission sources during the baseline years from the table that includes Press 12, 13, 14, Press 15, and Laminating.

The illustration below shows the flow diagram for the Press 12, 13, 14, Press 15, and Laminator #2.



Example calculation for August 2018:

Press 12, 13 & 14	**VOC Lbs**	**Data Source**
Inks dispensed to Presses 12,13 & 14	35805	Information is obtained from Nova Flow Reports (software) and flow meter measurements.
80/20 in inks dispensed to Presses 12, 13 & 14	5023	
80/20 solvent dispensed to Presses 12, 13 & 14	68224.42	
Glycol DPM	104.83	Quantity used is obtained by Nexeo Monthly Usage Reports.
Isopropanol	503	Quantity used is obtained by Nexeo Monthly Usage Reports.
n-butyl acetate	105	Quantity used is obtained by Nexeo Monthly Usage Reports.
NP Alcohol	524	Quantity used is obtained by Nexeo Monthly Usage Reports.
VM&P	22	Quantity used is obtained by Nexeo Monthly Usage Reports.
Subtotal (lbs)	**110311.25**	
Subtotal (Tons)	**55.155625**	
Press 15	**Lbs**	**Data Source**
Inks dispensed to Presses 15	14745	Nova Flow Reports and flow meter measurements.
80/20 in inks dispensed to Presses 15	2040	
80/20 solvent dispensed to Presses 15	11383	
Duplicating fluid drum solvent	2148	Quantity used is obtained by Nexeo Monthly Usage Reports.
Glycol DPM	43.17	Quantity used is obtained by Nexeo Monthly Usage Reports.
Isopropanol	207.1	Quantity used is obtained by Nexeo Monthly Usage Reports.

n-butyl acetate	43.17	Quantity used is obtained by Nexeo Monthly Usage Reports.
NP Acetate	235.35	Quantity used is obtained by Nexeo Monthly Usage Reports.
NP Alcohol	215.85	Quantity used is obtained by Nexeo Monthly Usage Reports.
VM&P	9.04	Quantity used is obtained by Nexeo Monthly Usage Reports.
Subtotal uncontrolled emissions (lbs)	31069.7	
Subtotal Controlled emissions (lbs)	**1677.8**	
Subtotal Controlled emissions (tons)	**0.84**	
Laminating	**Lbs**	**Data Source**
Amount of Ethyl Acetate Laminating Solvent Dispensed (lbs)	10302	Data recorded from Nexeo Monthly Usage Reports and tank measurements.
Amount of Laminating Adhesive Purchased (lbs)	0	
Subtotal (lbs)	**10302**	
Subtotal (Tons)	**5.2**	
Hazardous Waste Removed	**Lbs**	**Data Source**
Amount of Printing Solvent and Ink Removed (lbs)7	17100	Waste solvent and ink is collected in a storage tank. The amount of solvent removed is based on tank measurements.
Amount of Ink Sludge Removed (lbs)8	2125	Quantity of ink sludge removed is based on manifest shipping records.
Amount of Laminating Solvent Removed (lbs)8	50	Quantity of laminating solvent removed is based on manifest shipping records.
Subtotal (lbs)	**19275**	
Subtotal (Tons)	**9.6375**	
Combustion Source VOCS (tons)	0.012	The operation of the dryers using AP-42 emission factor for natural gas combustion (combined 5.8 MMBTU/hr). Since emissions are insignificant and fairly constant, the annual potential to emit VOCs were used and divided by 12 to get monthly emissions (0.14 tons/year divided by 12 = 0.012 ton/year)
Storage Tank VOCs (tons)	0.014	The tank emissions are estimated using Tanks 4.09(d). Emissions are insignificant and therefore assumed to be the same each month.
Subtotal (Tons)	**0.026**	
Facility-Wide VOC Emission (tons)	51.5	Total emissions = mass balance totals from printing and laminating operation - quantity of hazardous waste removed.

PAL VOC emissions limits

Based on meeting the conditions of 40 CFR §51.166(w)(10)(iv)(a) and the condition in 15A NCAC 02D .0530(i), The facility has demonstrated the appropriateness of setting the renewal VOC PAL at the current 401 tons per year level. Thus, there will be no change in the Actuals VOC PAL limit (Tons Per Rolling 12-Months, Section 2.3 A. 1., of the permit).

The Effective and Expiration Date of VOC PAL

Once the Air Quality Permit No. 04691T32 is issued the effective and expiration date of VOC PAL in the Section 2.3 A. 1., (table) will be adjusted such that the PAL permit does not exceed 10 years from the effective date.

Testing Monitoring/Recordkeeping Reporting

There is no change to the testing, monitoring, record keeping and reporting requirements (Section 2.3 A. 1., of the permit) including monthly calculation of VOC emissions.

Re-Validation of Emissions Data

"40 CFR §CFR 51.166(w)(12)(ix) requires that "all data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the reviewing authority. Such testing must occur at least once every 5 years after issuance of the PAL."

B Renewal of tile title V permit.

Application Chronology

The table of "Application Chronology" above outlines the modification to their permit starting from their last permit renewal (Air Quality Permit No. 04691T2, application # 1800184.10B)

Regulatory Summary

(Application # 1800184.21A to exchange the control device from a flexographic press (Press 15) and the Press 15 ink room (Room-15) from catalytic oxidizer (CD1) to regenerative thermal dual chamber oxidizer (RTO-1), Air Permit 04691T31, Issued on April 231, 2021)

i. 15A NCAC 2D .0515: "Particulates from Miscellaneous Industrial Processes."

Sources under Section 2.1 A., B., and C., of the permit are subject to the above regulation. However, sources under these Sections are not currently subject to the any reporting requirements.

There are no changes to the emission limits, testing, monitoring, record keeping and reporting requirements for the above regulations in the modified permit.

ii. 15A NCAC 02D .0521: "Control of Visible Emissions."

All sources at this facility are subject to this opacity regulation. The current permit does not require any monitoring, recordkeeping or reporting for visible emissions from operation of these sources.

There are no changes to the emission limits, testing, monitoring, record keeping and reporting requirements for the above regulations in the modified permit.

iii. 15A NCAC 02D .0516: "Sulfur Dioxide Emissions from Combustion Sources."

Sources under Section 2.1 A., B., and C., of the permit are subject to the above regulation which regulates the emissions of sulfur dioxide. Most of the sources burn natural gas or are controlled by control device fired by natural gas.

Since all sources/control device burn natural gas a clean fuel there are no monitoring, record keeping, or reporting required to demonstrate compliance for this regulation. There are no changes to the emission limits, testing, monitoring, record keeping and reporting requirements for the above regulation.

iv. 15A NCAC 02D .0530 Actuals PAL Permit Requirements

Sources under Section 2.1 A., B., and C., of the permit are subject to the Actuals Plantwide Applicability Limitations (PAL) which restricts the emissions of VOC to less than 401 tons per year (See Section II A., and Section III A., of this review, above).

v. 15A NCAC 02D .1111: Maximum Achievable Control Technology Subpart KK "National Emission Standards for the Printing and Publishing Industry"

The entire facility is subject to this MACT (Section 2.2 A. 1., of the permit) and there is no change to the emission limits, testing, monitoring, record keeping and reporting requirements for this MACT due to this renewal.

State-Enforceable Only

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

This State only rule (Section 2.2 A. 1., of the permit) applies to Laminator-6 and Laminator-14 which restricts the emissions of Ethyl Acetate from these sources. There is no change to the emission limits, testing, monitoring, record keeping and reporting requirements for this regulation due to this renewal.

IV. NSPS, NESHAPS/MACT, Attainment Status, 12(r), Air Toxics (NCGS) 143-215.107(a)(5) (House Bill 952), CAM, 15A NCAC 02Q .0501(b)(2) modification, and Compliance Status

NSPS

The insignificant source "Natural gas-fired emergency generator (ID No. IES-GEN)" is subject to NSPS Subpart JJJJ "New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines." There are no changes to the applicability, operating limits, monitoring, record keeping, and reporting requirements for this source.

NESHAP/MACT

The insignificant source "Natural gas-fired emergency generator (ID No. IES-GEN)" is subject to 40 CFR PART 63, Subpart ZZZZ; "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines." There are no changes to the applicability, operating limits, monitoring, record keeping, and reporting requirements for this source.

CAM

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit. None of the sources at this facility is subject to a CAM plan.

The renewal of the Actuals Plant-wide Applicability Limitations (PAL) for VOC emissions and the renewal of tile title V permit does not subject any sources to a CAM plan.

112(r)

This 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 thresholds in this rule.

Compliance with Toxics - (NCGS) 143-215.107(a)(5) (House Bill 952)

Laminator-14 and Laminator-6 are subject to emissions limit for emissions of ethyl acetate. There are no changes to the permit limit for the emissions of ethyl acetate.

The renewal of the Actuals Plant-wide Applicability Limitations (PAL) for VOC emissions and renewal of the Title V permit does not increase any toxic air pollutant emissions to the environment and does not present an unacceptable risk to human health and thus complies with North Carolina General Statute (NCGS) 143-215.107(a)(5) (House Bill 952).

Attainment Status and Increments

As per http://daq.state.nc.us/permits/psd/docs/mbd1.pdf the PSD minor source baseline dates for the emissions of PM_{10} has been triggered for Catawba County, which is currently designated as an attainment area. These renewals do not increase the emissions of PM_{10}.

15A NCAC 02Q .0501(b)(2) modification

The foot note of the source table lists the control device (ID No. RTO-1) as a 15A NCAC 02Q .0501(b)(2) modification. The applicant shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1.

Also, Section 2.4 of the permit requires the applicant to file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the Regenerative Thermal Oxidizer (ID No. RTO-1) on or before 12 months after commencing operation of this control device.

This requirement of the permit is not completed and thus, this note is left in place.

Compliance

Based on the latest compliance report on IBEAM the facility was inspected on 3/2/2020 by Mr. Jim Vanwormer of the Mooresville Regional Office. The facility had an NOD issue on 2/18/2020 for late reporting of monthly usage of HAPs, however based on his observations, the facility was found to be in compliance with the air quality regulations.

V. Consistency Determination, Comments, and Recommendations

A zoning consistency determination (G.S. 143-215.108) was not required for this Title V and VOC PAL renewal because no new equipment was added.

Professional Engineer Seal

As required by 15A NCAC 02Q .0112 "Applications Requiring Professional Engineer (PE) Seal," a professional engineer registered in North Carolina shall be required to seal technical portions of air permit applications for new sources and modifications of existing sources of particulate matter with air flow rates of more than 10,000 actual cubic feet per minute (acfm)."

Since no sources or control devices are being added by these renewals, a PE seal (15A NCAC 02Q .0112) was not required.

The Regional Office, the applicant, and the SSCB (Stationary Source Compliance Branch) were provided a copy of the modified draft permit for this application for their comments and their comments were taken into consideration.

The Stationary Source Compliance Branch did not have any comments.

The regional office comments from Jim VanWormer were received by an e-mail on 8/11/2021 and he wrote:

"I observed a successful stack test a few months ago at the Hickory Plant. From the results that I saw on the report, the destruction efficiency was up around 99%. Glad to see that there is no production limit verbiage on the permit. The facility tested the worst case VOC label during the testing. Due to the amount of ink on the label, the production rate had to be slower to allow the ink to dry. The facility didn't want to be limited on production speed on labels with less ink, lower VOC amounts that take less time to dry and can be produced quicker.

All of the ductwork and utilities have been removed from the catalytic oxidizer. Unless the facility has made a request, I don't see why it should remain in the permit. They plan on disassembling the unit to use for spare parts at other facilities."

Responses from the applicant was received on 7/26/2021 and on 8/6/2021.

The comments were to

1) Remove reference to the previous catalytic oxidizer and

2) Remove the provision for conducting source testing for RTO-1 on an annual basis (Section 2.3 A. 1. dd). A requirement for annual testing, even 3 years of annual consecutive testing, is excessive for RTO-1 for the following reasons.

The applicant added:

- "The RTO-1 is a state-of-the-art system that Sonoco installed in May 2021."

- "Source testing for the RTO was completed on June 23, 2021 and indicated that it has been constructed as designed and provides 98.7% destruction removal efficiency when operated at the referenced temperatures. A copy of the Source Test has been provided to the Regional Office on July 21, 2021."

- "The permit provisions for temperature monitoring and system maintenance will ensure that the system continues to operate as designed and provide 98.7% VOC destruction removal efficiency."

- "There are no HAPs being used in the printing inks/solvents and facility-wide HAPs are well below 1 ton/year." And

- "The applicant has completed initial testing of the new thermal oxidizer (Source Test report was submitted to Bruce last week)."

DAQ did agree to remove the provision of source testing for RTO-1 on an annual basis.

As per the "Stack Test Observation Report" dated 06/23/2021, by the Stationary Source Compliance Branch, the minimum average firebox temperature for the regenerative thermal oxidizer was established at 1,645^{o} Fahrenheit. 98.7% of destruction and removal efficiency (DRE).

2.3 A. 1. dd. iii. (B)., 2.3 A. 1. dd. iv., through vi., of the current permit was removed (The part requiring annual testing and associated protocols).

Testing is required if the monthly production rate exceeds the average production rate documented during prior performance testing by more than 10 percentage points (Section 2.3 A. 1. dd. iii. (A) of the modified permit), or a shows noncompliance with an emission limit (Section 2.3 A. 1. dd. iv., of the modified permit).

VI. Miscellaneous

- The responsible official in the draft permit matches the information on IBEAM.
  There was a change in the responsible official to Mr. Ron Milz, Division Vice President, Manufacturing.
- The facility address matches the information on IBEAM.
- There are no new insignificant activities being added with this modification.
- All the regulatory references to 15A NCAC 02Q and 15A NCAC 02D have been verified.
- Every instance of the word "assure" has been changed to "ensure" in the modified permit.
- Removed all references from the bottom of the permitted sources table that no longer apply.
- Removed word "Subpart" from the permit sources table (i.e., NSPS Subpart IIII, etc.,).
- All old testing requirements have been deleted.
- Updated language from the shell for regulations (example 15A NCAC 02D .0515, .0521, .0516, etc.,). (See Section III., of this review, above)
- Updated General Conditions.

VII. Table of changes:

Table of changes made in Air Quality Permit No. 04691T31

Pages	Section	Description of Changes
	Insignificant Activities	Remove IES-8 and IES-9
11	2.3	Actuals PAL - Renewed VOC limit for 401tons per year
11	2.3 A. 1. f.,	Source testing for the RTO completed on June 23, 2021 indicated 98.7% destruction removal efficiency
15	2.3 A 1.c. ix.,	Initial testing was completed on June 23, 2021 and established the minimum average firebox temperature for the regenerative thermal oxidizer at 1,645^{o} Fahrenheit.
15	2.3 A 1. dd., iii., (A)	Performance tests to be done if the monthly production rate exceeds the average production rate documented during prior performance testing by more than 10 percentage points.
15	2.3 A 1. Dd., iv.,	Annual testing of RTO removed however, if a performance test shows noncompliance with an emission limit, he Permittee shall return to conducting annual performance tests.
19	2.4	Applicant to file a Title V Air Quality Permit Application pursuant to 15A NCAC 2Q .0504 for the Regenerative Thermal Oxidizer (ID No. RTO-1) on or before 12 months after commencing operation of this control device.
20 through 31	General Conditions	Updated “General Conditions”