

NARRATIVE

TO: Jeng-Hon Su
FROM: Ginger Payment
DATE: August 15, 2022

Facility Name: **Packaging Specialties of Georgia Inc**
AIRS No.: 139-00068
Location: Gainesville, GA (Hall County)
Application #: 28525
Date of Application: August 3, 2022

Background Information

Packaging Specialties of Georgia, Inc. (hereinafter “facility”) is an existing flexographic printing facility which is located at 2400 Murphy Blvd. in Gainesville (Hall County). Permit No. 2751-139-0068-S-03-0 was issued on November 26, 2019 for the operation of the facility, for the construction and operation of a flexographic press (P04) and for renaming of existing flexographic presses. The permit included a VOC emission limit of 100 tpy and HAP emission limits of 25 tpy for combined HAP emissions and 10 tpy for any individual HAP emission. A regenerative thermal oxidizer (RTO) controls emissions from the existing Permanent Total Enclosure (PTE) containing the presses.

The production process consists of unrolling film from a fixed stand through a stack arrangement of printing and coating stations. One color is applied at each station. Then ink is dried by individual station dryers. Overprint varnish may be applied at the last station. Final drying takes place in a tunnel dryer where the film is rewound following the drying operation. Printed film is taken directly to packaging after the rewinding operation. It is subsequently shipped or warehoused until needed.

All plate, anilox, and print deck cleaning takes place in the press room. There are no bulk solvent storage tanks at this site. No extrusion or adhesive lamination is performed at this facility.

Purpose of Application

Application No. 28525 was submitted on August 3, 2022 to request the construction and operation of a new flexographic press (P06). A Public Advisory (PA0822-2) was issued on August 10, 2022 and will expire on September 9, 2022.

Updated Equipment List

Emission Units			Associated Control Devices	
Source Code	Description	Installation Date	Source Code	Description
P01	Flexographic Printing Press	2005	T01	DURR-RL25 Regenerative Thermal Oxidizer
P02	Flexographic Printing Press	2006	T01	DURR-RL25 Regenerative Thermal Oxidizer
P03	Flexographic Printing Press	2013	T01	DURR-RL25 Regenerative Thermal Oxidizer
P04	Flexographic Printing Press	2019	T01	DURR-RL25 Regenerative Thermal Oxidizer
P05	Flexographic Printing Press	2000	T01	DURR-RL25 Regenerative Thermal Oxidizer
P06*	Flexographic Printing Press	2022*	T01	DURR-RL25 Regenerative Thermal Oxidizer

*proposed within current application

Emissions Summary

The emissions were calculated by the facility using a mass balance of the ink usage for the highest month of emissions in the past 2 years (for April 2021) and the VOC/HAP content of the ink. A 95% destruction was assumed for all actual emission calculations; however, the RTO showed a destruction of 98% during the most recent performance test.

The potential emissions in the following table show the emissions prior to being controlled. The actual emissions in the table show the emissions with control efficiency and capture efficiency included.

Facility-Wide Emissions
(in tons per year)

Pollutant	Potential Emissions			Actual Emissions		
	Before Mod.	After Mod.	Emissions Change	Before Mod.	After Mod.	Emissions Change
PM/PM ₁₀ /PM _{2.5}	--	--	--	--	--	--
NO _x	--	--	--	--	--	--
SO ₂	--	--	--	--	--	--
CO	--	--	--	--	--	--
VOC	<100	<100	0	52.2	62.7	10.5
Max. Individual HAP	<10	<10	0	0.0814	0.0976	0.0162
Total HAP	<25	<25	0	0.173	0.208	0.035
Total GHG (if applicable)	--	--	--	--	--	--

Regulatory Applicability

The facility will continue to be subject to Georgia Rule (b) – *Visible Emissions* and Georgia Rule (e) – *Particulate Emission from Manufacturing Processes*.

Because the VOC emissions are limited to less than 100 tpy, the facility avoids Georgia Rule (tt) - *VOC Emissions from Major Sources*.

Because Hall County met the 1997 ozone standards prior to January 1, 2015, per GA Rule 391-3-1-.02(2)(mm)12., the requirements of Subparagraphs 8 through 11 were no longer applicable; instead, the provisions of Subparagraphs 6 and 7 will continue to apply on and after January 1, 2015. Since Hall County is not in any of the county lists in Subparagraphs 6 and 7, the facility is not subject to Georgia Rule (mm) - *VOC Emissions from Graphic Arts Systems*.

In order to avoid MACT requirements, HAP emissions are limited to less than 10 tpy for an individual HAP and less than 25 tpy for combined HAP emissions.

Permit Conditions

Condition 6.2 was modified to require a Method 204 Test within 90 days after the initial startup of Press P06 to verify that the enclosure is a Permanent Total Enclosure within.

Condition 6.3 was modified to require a VOC destruction efficiency test for the RTO within 90 days after the initial startup of Press P06.

Toxic Impact Assessment

The potential emission rate for all HAP/TAP were evaluated to determine if a toxic impact assessment was necessary. All of the pollutants emission rates were evaluated to the MER (minimum emission rate) located in Appendix A for the Georgia Air Toxics Guidelines. A summary of the MER for the pollutants is shown in the table below. All of the pollutants emission rates were below the MER; therefore, a toxic impact assessment was not necessary for these pollutants.

Pollutant	CAS	Emission Rate (lb/yr)	MER (lb/yr)	Modeling Required?
Ethylene glycol	107-21-1	195	20,149	No
Formaldehyde	50-00-0	40.1	267	No
Toluene	108-88-3	180	1,216,650	No

Summary & Recommendations

I recommend issuance of Permit Amendment No. 2751-139-0068-S-03-1 to Packaging Specialties of Georgia, Inc. for the construction and operation of a new flexographic press (P06). A public advisory was issued for this application and will expire September 9, 2022. The SSCP is responsible for compliance and inspection of this facility. The platform was reviewed for accuracy.