ENGINEERING ANALYSIS
Vulcaflex
Synthetic Leather Manufacturing Facility Project

On June 29, 2026, the Department received an Air Permit application from Vulcaflex, Inc. located in Auburn, Alabama. Vulcaflex has proposed to construct a synthetic leather manufacturing facility within the Auburn Technology Park West Annex II on Haygood Court. This facility will manufacture polyvinyl chloride (PVC) coated polyester synthetic leather rolls for the automotive industry.

Process Description

The proposed facility's operations will consist of raw material mixing areas, basin and cylinder washing machines, a coating line, a lacquering line, two embossing lines, and three control, cutting, and packaging lines. The facility will be equipped with a 398-brake-horsepower (bhp) diesel-fired reciprocal internal combustion engine for emergency use only.

There will be ten new storage tanks with capacities of approximately 8,000 gallons that will be used to store high molecular weight plasticizer. The plastisol will be prepared in the coating mixing lab, which will be equipped to vent particulate dust and granulated raw materials to a dust collector (EP-1). The plasticizer will be applied to the release paper using a knife coating machine. There will be three coating machines, each with curing ovens and cooling stations following. Exhaust gases containing volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) from the plastisol mixing area, coating line dryers, and basin washing machine, as well as combustion products from the 27 natural gas burners in the coating line curing ovens, will be combined and sent to a mist eliminator (EP-2). Exhaust gases from the coating line cooling stations will be vented uncontrolled through a stack (EP-3).

There will be three new storage tanks with capacities of approximately 800 gallons that will be used to store solvents. Lacquer will be prepared in a dedicated mixing area before being transferred to the lacquering line. On the lacquering line, there will be four lacquering units, dryers, and cooling stations. The lacquering units will use a rotogravure coating process. Combustion byproducts from the eight natural gas burners used to heat the lacquering line dryers will be combined with the emissions generated by mixing area and lacquering line. These combined emissions will be routed to regenerative thermal oxidizer (EP-4).

The two embossing lines will perforate, clean, heat, emboss, and cool the product. This line will not be equipped with any process heat sources. Each line will be equipped with a mist eliminator (EP-5 and EP-6) to reduce potential VOC and HAP emissions. The mist eliminators' manufacturer guaranteed removal efficiency of 99.9% for droplets greater than 15 microns will allow the emissions from the embossing line to be assumed negligible.

Emissions

The expected facility wide potential emissions are shown in Attachment 1.

Prevention of Significant Deterioration (PSD)

The potential emissions from the proposed facility are below the 250 TPY threshold for criteria pollutants for the Prevention of Significant Deterioration (PSD). Therefore, Vulcaflex will be considered a minor source for PSD applicability.

Title V

Vulcaflex will not be required to obtain a Title V permit at this time. The proposed facility will not exceed the 100 TPY threshold for any criteria pollutant, the 25 TPY threshold for combination of HAP, or the 10 TPY threshold for any single HAP.

New Source Performance Standards (NSPS)

The NSPS Subpart FFF, "Standards of Performance for Flexible vinyl and Urethane Coating and Printing," would be applicable to the proposed lacquering line, as it is a rotogravure printing line used to coat urethane products. As required by §60.582(a), the owner or operator of a facility subject to this subpart shall either use inks with a weighted average VOC content less than 1.0 kilogram VOC per kilogram ink solids or reduce VOC emissions to the atmosphere by 85 percent. Affected facilities should also comply with the approved test methods and procedures in §60.583, the monitoring and recordkeeping requirements in §60.584, and the reporting requirements in §60.585.

The NSPS Subpart VVV, "Standards of Performance for Polymeric Coating of Supporting Substrates Facilities," would be applicable to the proposed coating mixing area, coating line, lacquering mixing area, and lacquering line. As required by §60.740(b), any facility subject to this part for which the amount of VOC used is less than 95 megagrams per 12-month period is subject only to the monitoring requirements of §60.744(b) and the reporting and recordkeeping requirements of §60.747(b-c).

The NSPS Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," would be applicable to the proposed emergency engine since the CI ICE would be manufactured after April 1, 2006, as stated in §60.4200(a)(2)(i). The engine would be subject to the manufacturer's emission standards in §60.4202(a)(2) as stated in §60.4205(b). Owners and operators of CI internal combustion engineers subject to Subpart IIII should comply with the fuel requirements of §60.4207, the monitoring requirements of §60.4209, the compliance requirements of §60.4211, the testing requirements of §60.4212, and the recordkeeping and reporting requirements of §60.4214.

The NSPS Subpart Kc, "Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commence After October 4, 2023," would not be applicable to the ten plasticizer storage tanks and three solvent storage tanks. Per §60.110c(a), Subpart Kc applies to storage vessels with capacities greater than or equal to 20,000 gallons (75.7 cubic meters). The ten plasticizer storage tanks and three solvent storage tanks all have capacities less than 20,000 gallons.

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

Vulcaflex will not be subject to Subpart OOOO of Part 63, "Printing, Coating, and Dyeing of Fabrics and Other Textiles," because the source's potential emissions do not exceed the major source threshold of 10 TPY and 25 TPY for a single HAP and total HAPs, respectively. However, if Vulcaflex were to exceed the thresholds and become a major source for HAPs, both the coating line and the lacquering line would be subject to this subpart.

The diesel fired emergency generator will be subject to the NESHAP for Stationary Reciprocating Internal Combustion Engines, Part 40 CFR Part 63 Subpart ZZZZ, but per §63.6590(c)(1), the unit will comply with the NESHAP Subpart ZZZZ by complying with NSPS Subpart IIII.

There are no other NESHAPs (40 CFR Part 63) that will apply to this synthetic leather manufacturing facility project.

Recommendation

I recommend that the attached air permits be issued to Vulcaflex after a greenfield site inspection and public comment period. This recommendation is based on the fact that Vulcaflex should meet all applicable state and federal regulations.

Katie Pennell
Chemical Branch
Air Division

July 29, 2026
Date

KGP:kgp
File ID:

Attachment 1
FACILITY WIDE POTENTIAL EMISSIONS SUMMARY
Vulcaflex Inc.

	Tons per Year														
Emission Source	**Total PM**	**PM Cond.**	**PM Filt.**	**$PM_{10\ Filt}$**	**$PM_{2.5\ Filt}$**	**VOC**	**SO_2**	**NO_x**	**CO**	**CO_2**	**CO_2^e**	**Total HAP**	**VCM**	**Xylene**	**Triethylamine**
Coating Line															
Coating Mixing Area Dust Collector (EP-1)	9.36E-01	-	9.36E-01	9.36E-01	9.36E-01	-	-	-	-	-	-	6.95E-05	-	-	-
Coating Line Mist Eliminator (EP-2)	-	-	-	-	-	4.31E+00	-	-	-	-	-	2.78E-01	2.78E-01	-	-
Coating Line Natural Gas Burners (EP-2)	4.60E-01	3.45E-01	1.15E-01	1.15E-01	1.15E-01	3.33E-01	3.64E-02	6.06E+00	5.09E+00	7.27E+03	7.31E+03	1.14E-01	-	-	-
Coating Line Cooling Station Exhaust Stack (EP-3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacquering Line															
Lacquering Line RTO (EP-4)	-	-	-	-	-	1.39E+00	-	-	-	-	-	1.37E-02	-	2.70E-04	1.34E-02
Lacquering Line Natural Gas Burners (EP-4)	5.10E-01	3.83E-01	1.28E-01	1.28E-01	1.28E-01	3.69E-01	4.03E-02	6.72E+00	5.64E+00	8.06E+03	8.11E+03	1.27E-01	-	-	-
Embossing Lines															
Embossing Line 1 Mist Eliminator (EP-5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Embossing Line 2 Mist Eliminator (EP-6)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Emergency Generator (Shown @ 500 hrs/yr)															
398-hp Diesel-Powered Emergency Generator	3.27E-02	3.61E-03	2.91E-02	2.33E-02	2.24E-02	3.27E-02	1.21E-03	6.22E-01	5.73E-01	1.15E+02	1.15E+02	4.26E-04	-	4.89E-05	-
Totals	1.94E+00	7.32E-01	1.21E+00	1.20E+00	1.20E+00	6.43E+00	7.79E-02	1.34E+01	1.13E+01	1.54E+04	1.55E+04	5.34E-01	2.78E-01	3.19E-04	1.34E-02