

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-26-032

Toyota Boshoku Kentucky LLC – Lebanon Plant
200 Francis Marion Drive
Lebanon, KY 40033

July 2, 2026
Qinyi Wang, Reviewer

SOURCE ID:	21-155-00033
AGENCY INTEREST:	35886
ACTIVITY:	APE20260001

Table of Contents

SECTION 1 – SOURCE DESCRIPTION	2
SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM.....	3
SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS	5
SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS	11
SECTION 5 – PERMITTING HISTORY	13
SECTION 6 – PERMIT APPLICATION HISTORY.....	14
APPENDIX A – ABBREVIATIONS AND ACRONYMS	15

SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2396, Automotive Trimmings, Apparel Findings, and Related Products (textile motor vehicle trimming except contractors)

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Marion

Nonattainment Area ☒ N/A ☐ PM₁₀ ☐ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No

If yes, for what pollutant(s)?

☐ PM₁₀ ☐ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☒ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No

If yes, for what pollutant(s)?

☐ PM₁₀ ☐ PM_{2.5} ☐ CO ☐ NO_x ☐ SO₂ ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☒ Yes ☐ No

If yes, list which pollutant(s): Methanol

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Toyota Boshoku Kentucky LLC - Lebanon Plant (TBKY) manufactures interior trim for automobiles including trim, armrests, headliners, and ornaments.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-26-032

Activity: APE20260001

Application Received: April 8, 2026

Application Complete Date(s): June 16, 2026

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐ Yes ☒ No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☒ Yes ☐ No

APE20240001: Removal of a headliner surface fabric melt/bonding process and wet trimming operations, *Approval issued on 01/31/2025*.

APE20230002: Removal of the Camry Ornament Emission Unit 08 (EP16), *Approval issued on 03/22/2024*.

APE20220003: Addition of two adhesive processes – Highlander 550B Emission Unit 11 (EP19) and Vacuum Former #2 Emission Unit 12 (EP20), removal of four insignificant activities of welding operations, *Approval issued on 01/23/2023*.

APE20220001: Change of the adhesive of Vacuum Former #1 Emission Unit 09 (EP17), *Approval issued on 05/04/2022*.

APE20210003: Addition of Vacuum Former #1 Emission Unit 09 (EP17) and RAV4 adhesive lines Emission Unit 10 (EP18), *Approval issued on 01/04/2022*.

APE20210002: Removal of Mat Lines 1 and 2 Emission Unit 04 (EP11 and EP12), permit language corrections, removal of the Konal Press activities, addition of the Camry Ornament Emission Unit 08 (EP16) and updates to insignificant activity list, *Approval issued on 10/27/2021*.

Description of Action:

On 04/08/2026 the Division received an application for renewal of their Conditional Major permit (F-20-046). A federally enforceable source-wide limit of 9.0 tpy for individual HAP has been added to the renewal permit (F-26-032).

F-26-032 Emission Summary		
Pollutant	2025 Actual (tpy)	PTE F-26-032 (tpy)
CO	0.03	6.45
NO _x	0.05	13.91
PT	0.47	14.27
PM ₁₀	0.47	14.27
PM _{2.5}	0.47	14.18
SO ₂	0.001	0.58
VOC	61.54	203*
Lead	2.0E-07	0
Greenhouse Gases (GHGs)		
Carbon Dioxide	44.68	6,938
Methane	0.0008	0.13
Nitrous Oxide	0.0008	0.12
CO ₂ Equivalent (CO ₂ e)	44.98	6,977
Hazardous Air Pollutants (HAPs)		
Methanol	3.35	11.9*
Combined HAPs:	3.35	11.9
Toxic Air Pollutants (TAPs)		
Cyclohexane	13.82	45.81
Ethyl Acetate	26.65	73.86
Heptane	8.88	24.62
Methyl Ethyl Ketone	0.74	4.87

**Emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds.*

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 06 (EP14)		Highlander 550B – Line 1 (Ornaments and Armrest Covers)		
Emission Unit 07 (EP15)		Highlander 550B – Line 2 (Ornaments and Armrest Covers)		
Emission Unit 09 (EP17)		Vacuum Former #1 Process		
Emission Unit 10 (EP18)		RAV4 Low/Mid Grade Ornament Process		
Emission Unit 11 (EP19)		Highlander 550B – Line 3		
Emission Unit 12 (EP20)		Vacuum Former #2 Process		
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
Individual HAP	Source wide 9 tpy	To preclude 401 KAR 52:020	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs./hr.	401 KAR 59:010, Section 3(2)	Material Balance & SDS with 80% Transfer Efficiency	Dry Filters, 90% C.E., Manufacturer's guarantee
	20 percent opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations
Initial Construction/Modification Date: <i>See below</i>				
Process Description:				
Emission Unit 06 (EP14) Highlander 550B – Line 1 (Ornaments and Armrest Covers)				
Line 1 coating and adhesive operation:				
One (1) robotic spray booth with two (2) Robots [Two (2) spray guns each robot]				
Applicator: Four (4) robotic HVLP spray guns				
Construction Commenced: 3/2019				
Construction Modified: 1/2021				
Two (2) manual spray booths				
Applicator: One (1) manual HVLP spray gun each				
Construction Commenced: 3/2019				
One (1) manual spray booth				
Applicator: Two (2) manual HVLP spray guns				
Construction Commenced: 1/2021				
(1) Electric curing oven				
Controls: Dry filters to control PM/PM ₁₀ emissions				
Control Efficiency: 90 percent				
Construction Commenced: 3/2019				
Emission Unit 07 (EP15) Highlander 550B – Line 2 (Ornaments and Armrest Covers)				
Line 2 adhesive application operation:				

Emission Unit 06 (EP14)	Highlander 550B – Line 1 (Ornaments and Armrest Covers)
Emission Unit 07 (EP15)	Highlander 550B – Line 2 (Ornaments and Armrest Covers)
Emission Unit 09 (EP17)	Vacuum Former #1 Process
Emission Unit 10 (EP18)	RAV4 Low/Mid Grade Ornament Process
Emission Unit 11 (EP19)	Highlander 550B – Line 3
Emission Unit 12 (EP20)	Vacuum Former #2 Process

One (1) Robotic spray booth with two (2) Robots [Two (2) spray guns each robot]
Applicator: Four (4) Robotic HVLP Spray guns
Construction Commenced: 3/2019
Construction Modified: 1/2021

Two (2) Manual Spray booths
Applicator: One (1) HVLP Manual Spray gun each
Construction Commenced: 3/2019

Oven: (1) Electric curing oven
Controls: Dry filters to control PM/PM₁₀ emissions
Control Efficiency: 90 percent
Construction Commenced: 3/2019

Emission Unit 09 (EP17) Vacuum Former #1 Process

Coating and adhesive operation:

One (1) Robotic spray booth
Applicator: One (1) Robotic HVLP spray gun
Construction Commenced: 12/2021

One (1) Manual spray booth (Used intermittently)
Applicator: One (1) Manual HVLP spray gun
Construction Commenced: 12/2021

One (1) Electric curing oven
Controls Each Spray Booth: Dry filters to control PM/PM₁₀ emissions
Control Efficiency: 90 percent
Construction Commenced: 12/2021

Emission Unit 10 (EP18) RAV4 Low/Mid Grade Ornament Process

Coating and adhesive operation:

One (1) Robotic spray booth
Applicator: One (1) Robotic HVLP spray gun
Construction Commenced: 12/2021

Two (2) Electric curing ovens
Controls Each Spray Booth: Dry filters to control PM/PM₁₀ emissions
Control Efficiency: 90 percent
Construction Commenced: 12/2021

Emission Unit 11 (EP19) Highlander 550B – Line 3

Line 3 adhesive application operation:

One (1) Robotic spray booth with two (2) Robots [Two (2) spray guns each robot]

Emission Unit 06 (EP14)	Highlander 550B – Line 1 (Ornaments and Armrest Covers)
Emission Unit 07 (EP15)	Highlander 550B – Line 2 (Ornaments and Armrest Covers)
Emission Unit 09 (EP17)	Vacuum Former #1 Process
Emission Unit 10 (EP18)	RAV4 Low/Mid Grade Ornament Process
Emission Unit 11 (EP19)	Highlander 550B – Line 3
Emission Unit 12 (EP20)	Vacuum Former #2 Process

Applicator: Four (4) robotic HVLP spray guns
Construction Commenced: 5/2022

Two (2) Electric curing ovens
Controls: Dry filters to control PM/PM₁₀ emissions
Control Efficiency: 90 percent
Construction Commenced: 5/2022

Emission Unit 12 (EP20) Vacuum Former #2 Process

Coating and adhesive operation:

One (1) Robotic Spray Booth
Applicator: One (1) Robot with two (2) HVLP spray guns
Construction Commenced: 5/2022

One (1) Electric Curing Oven
Controls: Dry filters to control PM/PM₁₀ emissions
Control Efficiency: 90 percent
Construction Commenced: 5/2022

Applicable Regulation:

401 KAR 59:010, *New process operations*

State-Origin Requirement:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*

Precluded Regulation:

401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*. To preclude the applicability of this regulation, the source has voluntarily accepted a facility-wide VOC emissions (including insignificant activities and combustion units) limit of 90 tons per rolling 12-month period. Compliance with this allowable will be demonstrated by record keeping and emissions estimating methodology specified in the terms and conditions of the permit.

Comments:

Foam pieces are shaped and brought to be coated with fabric adhesives.

Emission Unit 06 (EP14) Highlander 550B – Line 1 (Ornaments and Armrest Covers)

Materials applied: Adhesive onto ornament substrates and armrest covers.

This booth utilizes a corrugated paper filter.

Electric oven is capable of producing one vehicle's worth of ornaments or armrest covers every 57.6 seconds.

Emission Unit 07 (EP15) Highlander 550B – Line 2 (Ornaments and Armrest Covers)

Emission Unit 06 (EP14)	Highlander 550B – Line 1 (Ornaments and Armrest Covers)
Emission Unit 07 (EP15)	Highlander 550B – Line 2 (Ornaments and Armrest Covers)
Emission Unit 09 (EP17)	Vacuum Former #1 Process
Emission Unit 10 (EP18)	RAV4 Low/Mid Grade Ornament Process
Emission Unit 11 (EP19)	Highlander 550B – Line 3
Emission Unit 12 (EP20)	Vacuum Former #2 Process

Materials applied: Adhesive onto ornament substrates and armrest covers.

This booth utilizes a corrugated paper filter.

Electric oven is capable of producing one vehicle's worth of ornaments or armrest covers every 57.6 seconds.

For EP14 and EP15, the application of adhesive on the surface of the ornaments and armrest covers have a bottleneck at the oven. As such, the potential to emit from the spray guns is limited by the number of parts that can be produced. Each line has its own electric oven for a total of two ovens. Each oven is capable of producing one vehicle's worth of ornaments or armrest covers every 57.6 seconds. For the purpose of potential to emit calculations, only ornaments were assumed to be made since they require more adhesive. In addition to the bottleneck consideration, SDS and material balance information were used to estimate emissions. Bottleneck: One vehicle set of two front ornament substrates and two rear ornament substrates can be made every 57.6 seconds. Maximum production is 547,500 vehicles/year for the Ornamental Substrate, 1,095,000 vehicles/year for Side A, Side B Adhesive, and Ornamental Skin.

Emission Unit 09 (EP17) Vacuum Former #1 Process

Materials applied: Hi-Bon YAD211-1 adhesive applied onto plastic substrates and covers.

This booth utilizes a corrugated paper filter.

Electric oven is capable of producing each substrate every 90 seconds.

PTE emissions were estimated using the bottleneck production rate, SDS information, and material balance data. The bottleneck assumes 60 seconds per shot and two pieces per shot, resulting in a maximum production capacity of 1,051,200 ornamental substrate pieces per year.

Emission Unit 10 (EP18) RAV4 Low/Mid Grade Ornament Process

Materials applied: Adhesive onto ornament substrates and skin.

This booth utilizes a corrugated paper filter.

Two electric ovens can produce two ornament substrates every 90 seconds.

The bottleneck for this line is the vacuum former, operating at 60 seconds per vehicle set. For PTE calculations, only ornament substrates were assumed to be produced because they require more adhesive. SDS and material balance information were used to estimate emissions. The maximum production capacity is 525,600 vehicle sets per year.

Emission Unit 11 (EP19) Highlander 550B – Line 3 (Armrests)

Materials applied: SunStar 323LH adhesive applied onto armrest substrates and armrest covers

This booth utilizes a corrugated paper filter.

Two electric ovens can produce one vehicle set of armrest substrates every 60 seconds.

The bottleneck for this line is the two electric ovens, operating at 60 seconds per two parts. Therefore, the potential to emit from the spray guns is limited by oven production capacity. For PTE calculations, only

Emission Unit 06 (EP14)	Highlander 550B – Line 1 (Ornaments and Armrest Covers)
Emission Unit 07 (EP15)	Highlander 550B – Line 2 (Ornaments and Armrest Covers)
Emission Unit 09 (EP17)	Vacuum Former #1 Process
Emission Unit 10 (EP18)	RAV4 Low/Mid Grade Ornament Process
Emission Unit 11 (EP19)	Highlander 550B – Line 3
Emission Unit 12 (EP20)	Vacuum Former #2 Process

armrest substrates were assumed to be produced because they require more adhesive. SDS and material balance information were used to estimate emissions. The maximum production capacity is 525,600 vehicle sets per year.

Emission Unit 12 (EP20) Vacuum Former #2 Process
Materials applied: Bostik 1211 adhesive applied onto plastic substrates and covers
This booth utilizes a corrugated paper filter.
Electric oven is capable of producing each substrate every 60 seconds.
One vehicle set can be made in 120 seconds. The maximum production capacity is 262,800 vehicle sets per year.
The facility uses spray booth filters with filtering material of Andrea Paper and Cheese Cloth filter and has conservatively used PM control efficiency of only 90% submitted in 2021 application, though these filters are able to achieve higher control efficiency per manufacturer specifications.

Emission Unit 05 (1)	Emergency Diesel Fire Pump
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Initial Construction Date: 11/2013

Process Description:
John Deere certified Emergency diesel RICE is used for pumping water during a fire emergency.

Applicable Regulation:
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
401 KAR 60:005 Section 2(2)(oooo), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (Subpart IIII), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

Comments:
Power Output: 62 HP
Displacement: 4.5L
Manufacturing date: September 2013
Construction Date: November 2013
Family CJDXL04.5141; Certification number: CJDXL04.5141-027

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

None.

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	401 KAR 52:030, <i>Federally-enforceable permits for nonmajor sources</i>	Source-wide
9.0 tpy of individual HAP emissions	To preclude 401 KAR 52:020	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, <i>New process operations.</i>	06(EP14) 07(EP15)0 9(EP17)10 (EP18)11(EP19)12(EP20)
401 KAR 63:020, <i>Potentially hazardous matter or toxic substances.</i>	06(EP14) 07(EP15)0 9(EP17)10 (EP18)11(EP19)12(EP20)
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ) <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.</i>	05(1)
401 KAR 60:002 Section 2(2)(oooo), 40 C.F.R. 60.4200 through 60.4219, Tables 1 through 8 (Subpart IIII), <i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.</i>	05(1)

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 52:020, Title V permits.	Source-wide

Table D - Summary of Non Applicable Regulations:

None

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed modeling using Screen View on June 16, 2026 of potentially hazardous matter or toxic substances (Cyclohexane, Ethyl Acetate, N-Heptane, Methanol, Methyl Ethyl Ketone) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-05-048	Initial	APE20050001	11/16/2005	3/14/2006	Initial Permit	N/A
F-10-050	Renewal	APE20100001	1/12/2011	5/20/2011	Renewal Permit	N/A
F-10-050 R1	Revision	APE20110001	11/23/2011	11/29/2011	Administrative Amendment: Name change of Company	N/A
F-10-050 R2	Minor Revision	APE20140001	10/19/2014	12/17/2014	Addition of emergency fire pump and IA	N/A
F-16-008	Renewal	APE20150001	1/29/2016	5/27/2016	Renewal Permit	N/A
F-16-008 R1	Minor Revision	APE20190001	3/15/2019	8/18/2019	Addition of EP14 and EP15 Adhesive Coating Lines	N/A
F-20-046	Renewal	APE20200001	12/4/2020	6/20/2021	Renewal Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

None

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS	– Ambient Air Quality Standards
BACT	– Best Available Control Technology
Btu	– British thermal unit
CAM	– Compliance Assurance Monitoring
CO	– Carbon Monoxide
Division	– Kentucky Division for Air Quality
ESP	– Electrostatic Precipitator
GHG	– Greenhouse Gas
HAP	– Hazardous Air Pollutant
HF	– Hydrogen Fluoride (Gaseous)
MSDS	– Material Safety Data Sheets
mmHg	– Millimeter of mercury column height
NAAQS	– National Ambient Air Quality Standards
NESHAP	– National Emissions Standards for Hazardous Air Pollutants
NO _x	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM ₁₀	– Particulate Matter equal to or smaller than 10 micrometers
PM _{2.5}	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO ₂	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds