

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

Title V, Construction / Operating
Permit: V-20-026 R3
Toyota Motor Manufacturing, Kentucky, Inc.
1001 Cherry Blossom Way
Georgetown, KY 40324
2/4/2025
William Parsons, Reviewer

SOURCE ID: 21-209-00030
AGENCY INTEREST: 7998
ACTIVITY: APE20240001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3711, Motor Vehicles and Passenger Car Bodies (automobiles)

Single Source Det. ☒ Yes ☐ No If Yes, Affiliated Source AI: 126184

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

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

County: Scott

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): Bis (2-Ethylhexyl) Phthalate, Cumene, Ethyl Benzene, Ethylene Glycol, N-Hexane, Formaldehyde, Methanol, Methyl Isobutyl Ketone, Naphthalene, Phthalic Anhydride, Styrene, Toluene, Triethyl Amine, Xylene

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

*PTE does not include self-imposed emission limitations.

Description of Facility:

Toyota Motor Manufacturing, Kentucky, Inc. operates a vehicle assembly plant.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-20-026 R3

Activities: APE20240001

Received: April 8, 2024

Application Complete Date(s): June 10, 2024

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

Construction/Modification Requested? ☒ Yes ☐ No NSR Applicable? ☐ Yes ☒ No

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

Description of Action:

APE20230002 off-permit change:

An application was received May 11, 2023 for a 90 day extension to the 90 days of simultaneous operation for the new and old C08 and C09 Small Parts Phosphate and ED systems asked for in the APE20220001 Minor Revision.

APE20230003 502(b)10 change:

An application was received May 25, 2023 to make the following changes;

- a. Modification of D06 to update the fluid contents of tanks TF-5317 from thinner to transmission fluid and TF-5318 which will contain transmission fluid.
- b. Addition of tool re-surfacing machines in Building #800, including a vapor deposition machine and a parts washer for H13. The parts washer does not use VOC containing solution. The vapor deposition machine's VOC and PM emissions are assumed to be negligible.
- c. Addition of two emergency diesel generators to D07. These generators are subject to 40 CFR 63 Subpart ZZZZ.
- d. Addition of a wall exhaust for Building 800 Powertrain welding activities.

APE20230004 Minor Revision:

An application was received June 8, 2023 to add additional axel machining operations to H01, H04, and H09. New emissions from the equipment will be under existing BACT limits so no changes in the potential to emit are being made. In addition, J05 will include battery case welding used exclusively for training and R&D purposes. These changes were included in the APE20230003 502(b)10 change instead of being processed as a minor revision.

APE20230007 off-permit change:

An application was received August 4, 2023 for a 90 day extension to the 90 day extension of the 90 days of simultaneous operation for the new and old C08 and C09 Small Parts Phosphate and ED systems asked for in the APE20230002 off-permit change. This change was included in the APE20230003 502(b)10 change letter.

APE20240001 Minor Revision:

An application was received April 8th, 2024 to make a number of changes to the facility. These changes were separated into 3 projects. The three projects are separate activities and are not aggregated for the purpose of considering PSD applicability to these changes.

- a. Project 1 involves the changes being made to accommodate a new electric vehicle line that is going to be produced at the facility. New sources to be constructed as a part of project 1 are the following:
 1. BodyWeld, Battery Case Welding, a welding line that will be installed to create cases for the packaging and assembly of batteries into an electric vehicle. It will be named C18 Battery Case Welding and located in Building 100/100A. Sealer used as a part of this activity does not contain VOC. The type of welding being done is spot welding that does not use welding consumables such as wire or rods.
 2. Assembly 1, Battery Assembly Line, which assembles and installs battery cases onto the vehicle. It will be named A14 Battery Assembly and be located in Building 300. This activity involves the application of cleaner, the application of thermal interface material, non-VOC sealer application, and case electrodeposition coating repair. In an addendum cover letter, it was clarified electrodeposition coating repair would be a part of A10 instead of included in A14.
 3. Plastics, Vacuum Mold Forming Machines, is the addition of two vacuum mold forming machines and an end mill. The vacuum molds are used to compress layers of composites together, and the end mill machine is used to shape molds for the forming machines. The activity will be named G14b Vacuum Form Machines, and emissions are from trimming and adhesive curing.
 4. D06k 15,000 gallon coolant storage tank will be added.
- b. Some modifications are being made to existing sources as a part of project 1. These make changes to the facility's actual emissions, however, no changes to potential to emit from these sources is being made. Modifications of existing sources as a part of Project 1 are:
 1. C02 Stamping Press Operations will be modified to stamp metal for battery casings. Increase in actual emissions are projected from increased coolant and washing fluid use.
 2. C03, C04, C14, and C17 will be modified to support additional welding units.
 3. C06 Sealer and Adhesive Application, including Precure Ovens will add additional sealer applicators.
 4. A03 Glass Installation will install additional glass panel and seam application machines.
 5. A05 Fluid Filling Operations will add a battery coolant filling system.
 6. A09 Testing Operations will replace toe and drum tester equipment to fit larger vehicles.
 7. Additional paint applicators, cleaning systems, and purge systems are being added to Paint 1 Sealer Line (E04R), Topcoat Line (E07R), Blackout (E09R), and Wax Coating (E11R) to support larger vehicles.
 8. E02R Electro deposition Coating System and E05R Primer Booths will use more paint in actual terms, but no physical modifications are being made to these units. However, a carryover test was conducted on E05R and E07R on May 14, 2024 (CMN20240001) to obtain updated capture efficiencies for the emission units. The new efficiencies are being used for the baseline actual to projected actual calculation.
 9. C08 and C09 Small Parts Phosphate and ED systems will have an additional degreasing operation added for smaller components.
 10. G21 Exterior Part Painting and G22 Bumper Painting Operations will be handling larger plastic components.
 11. E13R Non Process Cleaning will have additional solvent purge associated with the changes.

- c. Modifications made as a part of project 1 are not modifications under 40 CFR 60.397 and 60.390a(d) as switches to larger vehicles are not considered modifications to existing facilities.
- d. Project 2 is the like kind replacement of four spray applicators and associated pumping systems on Line 2 Damping Coat Area for F04 Sealer Line and Oven. No changes to potential to emit, nor actual emissions are being made as a result of this change.
- e. Project 3 is an update to APE20220004 changes to E05R-02 and F05-02 soft chip coating changes. An increase in solvent purge usage is happening at E13R and F13 Non-Process Cleaning Activities as a part of this project, so the projected actual calculation is being updated. This project is not a part of project 1 for the Battery Electric Vehicles and is for the Camry only.

In the following pages will be a summary of Actual to Projected Actual calculations for PM and VOC for these three projects.

				PM Ton/year				
		Project	Impacted EU	2021 Actual	2022 Actual	Baseline Actual	Projected Actual	Projected actual - Baseline Actual (or PTE)
Project #1	New equipment added PTE	Battery Assembly	*New (A14 and A10)	-	-	-	-	-
		Battery Case Welding	*New (C18)	-	-	-	-	0.29
		Vacuum Form Machines	*New (G14b)	-	-	-	-	0.88
	Changes to existing Equipment Projected Actual - Baseline Actual	Glass Panel Install Replacement	A03	-	-	-	-	-
		Coolant Tank and Filling	A05, D06	-	-	-	-	-
		Toe and Drum Tester	A09	0.77	0.83	0.80	0.80	0.00
		Battery Case Press	C02	-	-	-	-	-
		BodyWeld Model Updates	C03, C06, C14, C17	16.50	16.40	16.45	18.04	1.59
		Paint 1 Topcoat, Sealer, Wax	E02R, E04R, E05R, E07R, E09R, E11R	5.08	5.51	5.29	6.41	1.11
		Plastics Line 1 Exterior and Bumper	G21, G22	0.35	0.35	0.35	0.45	0.10
		Update to Small Parts ED System	C08/C09	0.07	0.08	0.08	0.16	0.08
	Summary	Total Project #1 (BEV)*		22.77	23.17	22.97	25.86	4.05
Project #2								
	Summary	Paint 2 Damp Coat Refurbishment	F04	-	-	-	-	No Changes To Emissions
Project #3	Existing Equipment	Paint 1/2 Topcoat Purge Solvent Inc	E13R, F13	-	-	-	-	-
	Summary	Total Revised Project #3						No Changes To Emissions
Regulatory Standard		Significant Emission Rate PM2.5						10.00

				VOC Ton/year				
		Project	Impacted EU	2021 Actual	2022 Actual	Baseline Actual	Projected Actual	Projected actual - Baseline Actual (or PTE)
Project #1	New equipment added PTE	Battery Assembly	*New (A14 and A10)	-	-	-	-	6.91
		Battery Case Welding	*New (C18)	-	-	-	-	-
		Vacuum Form Machines	*New (G14b)	-	-	-	-	0.00
	Changes to existing Equipment Projected Actual - Baseline Actual	Glass Panel Install Replacement	A03	1.01	0.42	0.72	1.86	1.15
		Coolant Tank and Filling	A05, D06	0.20	0.12	0.16	0.17	0.01
		Toe and Drum Tester	A09	-	-	-	-	-
		Battery Case Press	C02	7.47	11.89	9.68	11.19	1.51
		BodyWeld Model Updates	C03,C06,C14,C17	0.60	1.24	0.92	1.30	0.37
		Paint 1 Topcoat, Sealer, Wax	E02R, E04R, E05R, E07R, E09R, E11R	66.73	70.40	68.57	93.54	24.97
		Solvent Purge	E13R	1.93	2.36	2.15	2.90	0.75
		Plastics Line 1 Exterior and Bumper	G21, G22	80.47	51.94	66.20	68.93	2.73
		Update to Small Parts ED System	C08/C09	4.09	4.13	4.11	4.44	0.33
	Summary	Total Project #1 (BEV)*						38.72
Project #2								
	Summary	Paint 2 Damp Coat Refurbishment	F04	-	-	-	-	No Changes To Emissions
Project #3	Existing Equipment	Paint 1/2 Topcoat Purge Solvent Inc	E13R, F13	93.79	82.08	87.93	90.31	2.38
	Summary	Total Revised Project #3	E05R, F05, C06					27.53
Regulatory Standard		Significant Emission Rate VOC						40.00

V-20-026 R3 Emission Summary				
Pollutant	2023 Actual (tpy)	Previous PTE V-20-026 R2 (tpy)	Change (tpy)	Revised PTE V-20-026 R3 (tpy)
CO	50.75	766.1	0.2	766.3
NO _x	59.48	914.3	0.5	914.8
PT	114.5	352.9	1.2	354.1
PM ₁₀	114.5	352.9	1.2	354.1
PM _{2.5}	59.10	215.3	1.2	216.5
SO ₂	0.38	6.22	0.03	6.25
VOC	1007	4914	-166	4748
Lead	0.00029	0.0045	0	0.0045
Greenhouse Gases (GHGs)				
Carbon Dioxide	70886	1092013	20	1092033
Methane	1.35	20.89	0	20.89
Nitrous Oxide	1.21	18.89	0	18.89
CO ₂ Equivalent (CO ₂ e)	71280	1098164	21	1098185
Hazardous Air Pollutants (HAPs)				
1,1,1-Trichloroethane	0.0053	3.38	0	3.38
Benzene	0.64	1.20	0	1.20
Bis (2-Ethylhexyl) Phthalate	6.50	10.43	0	10.43
Cumene	12.81	25.12	0	25.12
Ethyl Benzene	175.2	296.8	0	296.8
Ethylene Glycol	3.59	158.8	-1.1	157.7
Formaldehyde	34.54	63.62	0	63.62
Hexane; N-Hexane	1.79	17.32	0.07	17.39
Manganese	0.086	2.46	0	2.46
Methanol	142.7	270.5	0	270.5
Methyl Isobutyl Ketone	177.7	354.6	0	354.6
Methylene Diphenyl Diisocyanate	0.10	6.22	0	6.22
Naphthalene	81.83	112.6	0	112.6
Phthalic Anhydride	2.70	19.00	0	19.00
Propylene Oxide	0.73	2.94	0	2.94
Styrene	56.85	79.04	0	79.04
Toluene	394.9	823.8	0	823.8
Triethyl Amine	13.19	15.88	0	15.88
Xylenes	721.4	1097	0	1097
Combined HAPs:	1828	3361	-1	3360

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Units A01-A14, Assembly #1, 300 Building				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Compliance is Assumed
VOC (A02)	0.28 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (A03)	0.11 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (A06)	0.081 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM (A09)	0.85 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (A13)	1.05 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Assembly #1 combined (without A14)	92.4 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Assembly #1 combined (without A14)	5.26 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control

Emission Units A01-A14, Assembly #1, 300 Building				
				Equipment
HAP***	0.010 kg HAP/ kg material	40 CFR 63 Subpart III 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 7/1986 for all units except A14, A14 10/2024 Process Description: A01 Source Reassigned to Emission Unit A02 A02 Miscellaneous Wax Coating Operations, including hinge and hub wax. A03 Glass Installation, including glass primer, body primer and window sealer. A04 Miscellaneous Adhesive Applications A05 Fluid Filling Operations, including windshield cleaner, brake fluid, antifreeze, steering fluid, transmission fluid, refrigerants, and fuel. (Insignificant Activities List) A06 Non-Process Cleaning Activities A07 Process Cleaning Activities, including solvent wiping. A08 Process Lubrication, including hose installation. (Insignificant Activities List) A09 Testing Operations, including Brake Tester, Drum Tester, Final Line, Off-line Vehicle Inspection/Testing, Tester Waiter, Toe Tester A10 Paint Hospital, including: Sanding and Buffing, Painting Deck, and ED repair A11 Raw Material Supply A12 Miscellaneous Assembly Operations, not otherwise listed (e.g., minor repairs, chassis assembly, trim installation, engine installation...). (Insignificant Activities List) A13 General Exhausts A14 Battery Assembly Applicable Regulations: 401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i> (A02, A03, A06, A09, A13) 401 KAR 59:010, <i>New Process Operations</i> (A02, A05, A09, A13) 401 KAR 59:185, <i>New solvent metal cleaning equipment</i> (A06)				

Emission Units A01-A14, Assembly #1, 300 Building

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks (Refer to Section B Group Requirements)
(A02, A03, A04, A06, A07, A10, A14)

Comments:

The pollutants emitted from this shop are PM, HAPs and VOC. The VOC emissions originate from wax coating operations, glass installation, sealer and adhesive applications, fluid filling operations, non-process cleaning operations, process cleaning operations and repair painting. The emissions are uncontrolled. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. VOC emissions from fuel filling (Emission Unit A05) are controlled through the use of an Onboard Refueling Vapor Recovery (ORVR) System, which is now mandatory equipment on new automobiles. All other VOC emissions are uncontrolled.

The PM emissions are estimated from data collected at Toyota manufacturing plants in Japan or from onsite testing conducted by TMMK.

A14 Battery Assembly involves the application of cleaner, the application of thermal interface material, and non-VOC sealer application. Potential to emit is calculated based on the assumption a maximum quantity of 230,000 vehicles per year will be processed. 401 KAR 51:017 Prevention of significant deterioration of air quality does not apply to A14 due to it not being added as a part of a PSD revision.

The potential to emit for case electrodeposition coating repair under A10 is assumed to be 230,000 vehicles processed.

Emission Units B01-B13, Assembly #2, 3000 Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Compliance is Assumed
VOC (B02)	0.19 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (B03)	0.11 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC	0.081 lb/job	401 KAR 51:017	Material Balance &	Monitoring and

Emission Units B01-B13, Assembly #2, 3000 Building				
(B06)			MSDS	Recordkeeping of raw material usage
PM (B09)	0.79 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (B13)	1.08 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Assembly #2 combined	61.3 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Assembly #2 combined	8.76 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations

***Emission limits for** combined organic HAP emissions to the atmosphere from electrodeposition primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations.

****Emission limits for** electrodeposition primer systems that meet the standards of 40 CFR 63.3092(a) or (b).

*****Emission limits for** non-glass bonding adhesive, non-glass bonding sealer, and all deadener material

Initial Construction and/or Modification Date: 3/1991 for all units

Process Description:

B01 Source Reassigned to Emission Unit B02

B02 Miscellaneous Wax Coating Operations, including hinge and hub wax.

B03 Glass Installation, including glass primer, body primer and window sealer.

Emission Units B01-B13, Assembly #2, 3000 Building

- B04 Miscellaneous Adhesive Applications
- B05 Fluid Filling Operations, including windshield cleaner, brake fluid, antifreeze, steering fluid, transmission fluid, refrigerants, and fuel. (Insignificant Activities List)
- B06 Non-Process Cleaning Activities
- B07 Process Cleaning Activities, including solvent wiping
- B08 Process Lubrication, including hose installation. (Insignificant Activities List)
- B09 Testing Operations, including Line Off, Functional Inspection, Vibr. Toe and Strg. Test, Roll Test, Brake and Flutter test, Em. Test and Ubody Test
- B10 Paint Hospital, including: Sanding and Buffing, Painting Deck
- B11 Raw Material Supply / Storage
- B12 Miscellaneous Assembly Operations, not otherwise listed (e.g., minor repairs, chassis assembly, trim installation, engine installation...). (Insignificant Activities List)
- B13 General Exhaust

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(B02, B03, B06, B09, B13)

401 KAR 59:010, *New Process Operations*
(B02, B05, B09, B13)

401 KAR 59:185, *New solvent metal cleaning equipment*
(B06)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(B02, B03, B04, B06, B07, B10)

Comments:

The pollutants emitted from this shop are PM, HAPs, and VOC. The VOC emissions originate from wax coating operations, glass installation, sealer and adhesive applications, fluid filling operations, non-process cleaning operations, process cleaning operations and repair painting. The emissions are uncontrolled. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. VOC emissions from fuel filling (Emission Unit B05) are controlled through the use of an Onboard Refueling Vapor Recovery (ORVR) System, which is now mandatory equipment on new automobiles. All other VOC emissions are uncontrolled.

The PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK.

Emission Units M01-M09, Assembly #3, 3000 Building				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Compliance is Assumed
VOC (M02)	0.17 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (M05)	0.316 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Assembly #3 combined	23 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 3/2014 for all units Process Description: M01 Miscellaneous Wax Coating Operations, including underbody, engine, and hub wax. M02 Glass Installation, including glass primer, body primer and window sealer.				

Emission Units M01-M09, Assembly #3, 3000 Building

M03 Fluid Filling Operations, including windshield cleaner, brake fluid, antifreeze, steering fluid, transmission fluid, refrigerants, and fuel.
M04 Testing Operations, including brake tester, drum tester, final line, off-line vehicle inspection/testing, tester waiter, toe tester.
M05 Miscellaneous Process Cleaners
M06 Miscellaneous Adhesive Applications
M07 Non-Process Cleaning Activities
M08 Process Lubrication, including hose installation.
M09 Raw Material Supply / Storage

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(M02, M05)

401 KAR 59:010, *New Process Operations*
(M01, M03)

401 KAR 59:185, *New solvent metal cleaning equipment*
(M07)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(M01, M02, M05, M06, M07, M09)

Comments:

The pollutants emitted from this shop are PM, HAPs, VOC, NO_x, and CO₂. The VOC emissions originate from wax coating operations, glass installation, sealer and adhesive applications, fluid filling operations, and vehicle testing. The emissions are uncontrolled. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. VOC emissions from fuel filling (Emission Unit M03) are controlled through the use of an Onboard Refueling Vapor Recovery (ORVR) System, which is now mandatory equipment on new automobiles. Fluid filling operations (Emission Unit M03) are utilized the storage tank in Emission Unit D06. All other VOC emissions are uncontrolled.

The PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK.

Emission Units K01-K07, Production Control Operations and J01-J04 Quality Control Operations				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC Production Control Operations	5 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Quality Control Operations	5 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Compliance is Assumed
Initial Construction and/or Modification Date: 7/1986 for all units except K04, 2/2014 for K04 Process Description: K01 Dock Unloading Areas (Insignificant Activities List) K02 Parts Conveyance (Insignificant Activities List) K03 Shipping Preparation (Insignificant Activities List) K04 Fork Truck Repair Painting (Insignificant Activities List) K05 Cross Dock (Insignificant Activities List) K06 Battery Charging Stations (Insignificant Activities List) K07 Non-Process Cleaning Activities J01 Audit Lab (Insignificant Activities List) J02 Raw Material Test Lab (Insignificant Activities List) J03 Test Track Operations (Insignificant Activities List) J04 Non-Process Cleaning Activities Applicable Regulations: 401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i> 401 KAR 59:010, <i>New Process Operations</i> (J01, J02) 401 KAR 59:185, <i>New solvent metal cleaning equipment</i> (K07, J04) Comments: The pollutants emitted from these shops are PM, HAPs, and VOC. The VOC emissions originate from Fork Truck Repair Painting (Insignificant Activity), Raw Material Test Lab, and Non-Process Cleaning Activities. There is not any control equipment.				

Emission Units L01-L04, Logistics Operations				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Compliance is Assumed
VOC Logistics	5 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 7/1986 for all units Process Description: L01 Repair Painting L02 Accessory Installation (Insignificant Activities List) L03 Shipping Preparation (Insignificant Activities List) L04 Non-Process Cleaning Activities Applicable Regulations: 401 KAR 51:017, <i>Prevention of significant deterioration of air quality</i> 401 KAR 59:010, <i>New Process Operations</i> (L01)				

Emission Units L01-L04, Logistics Operations

401 KAR 59:185, *New solvent metal cleaning equipment*
(L04)

401 KAR 63:002 Section 2(4)(ooo), **40 C.F.R. 63.3080 to 63.3176**, **Tables 1 through 4**, and **Appendix A (Subpart IIII)**, *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(L01, L04)

Comments:

The pollutants emitted from this shop are PM, HAPs, and VOC. The VOC emissions originate from Repair Painting, Accessory Installation (Insignificant Activity), and Non-Process Cleaning Activities. There is not any control equipment at this shop.

Emission Units C01-C18, Body Operations, 100/100A Building and 400 Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Opacity Observations
PM (C03)	463.6 lb/hr weld wire usage (averaged monthly)	401 KAR 51:017	N/A	Semiannual Audits
VOC (C02)	0.518 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (C06) Line 1	0.120 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (C06) Line 2	0.306 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (C09)	0.041 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (100% Capture, ≥80% control) Monitoring and Recordkeeping of raw material usage
VOC (C10)	0.279 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw

Emission Units C01-C18, Body Operations, 100/100A Building and 400 Building				
				material usage
VOC (C12)	0.270 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM (C03/C14)	14.48 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (C04)	0.28 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (C08)	0.38 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (C09)	0.115 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (C10)	0.288 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Body Operations (line 2)	176.1 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Body Operations (whole) (without C18)	399.4 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Body Operations (whole) (without C18)	39.6 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (C09)	0.17 kg VOC/liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/	40 CFR 63 Subpart	Material Balance,	Monitoring,

Emission Units C01-C18, Body Operations, 100/100A Building and 400 Building				
	kg material	III 40 CFR 63.3091(c) and (d)	MSDS, and Test Data	Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 3/1991 for C01-C04, C10, C11, C14; 7/1986 for C06, C07, C12, C13; 3/2014 for C15, C16; 1/2016 for C17, C08 and C09 reconstructed 4/2022, C18 12/2024 Process Description: C01 Die Construction (Insignificant Activities List) C02 Stamping Press Operations (Line 1, 2 & 3) C03 Welding Operations, including Laser (stamping), Arc, and Resistance Welding (Dust Collector of PM emissions) C04 Brazing, Grinding and Finishing Operations C06 Sealer and Adhesive Application, including Precure Ovens (Line 1 & 2) C08 Small Parts Phosphate System, including De-greasing Tank, Rinse Tanks, and Phosphate Dip Tank (Line 1 & 3) C09 Small Parts Electro deposition System, Including Rinse Tanks, Dip Tank, and Oven (Line 1, 2 & 3) (Oven - RTO WT01) C10 Fuel Tank Antichip Coating (Line 2), including Booths & Ovens (Filters for PM) C11 Process Lubrication (Insignificant Activities List) C12 Non-Process Cleaning Activities C13 Fuel Tank Cleaning (Insignificant Activities List) C14 General Exhaust C15 Welding Operations, including Resistance and Arc Welding C16 Bodyweld Sealers and Adhesives (Line 3) C17 Welding Operations, including Laser and MIG Welding. (Each MIG welding equipment equipped with integral dust collector for PM emissions) C18 Battery Case Welding, Spot welding with VOC free sealer application Applicable Regulations: 401 KAR 51:017, Prevention of significant deterioration of air quality (C02, C03, C14, C06, C08, C09, C10, C14) 401 KAR 59:010, New Process Operations (C03, C04, C06, C08, C09, C10, C13, C14, C15, C18) 401 KAR 59:185, New solvent metal cleaning equipment (C12)				

Emission Units C01-C18, Body Operations, 100/100A Building and 400 Building

401 KAR 60:005 Section 2(2)(tt) 40 C.F.R. 60.390 to 60.398 (Subpart MM), Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations
(C09)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks
(C06, C09, C10, C12, C16)

Comments:

The pollutants emitted from this shop are PM, HAPs, VOC, and CO₂. The VOC emissions originate from stamping press operations, adhesive/sealer application, moon roof primer application, small parts phosphate etching, small parts electrodeposition, fuel tank coating application, parts lubrication and non-process cleaning activities. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification.

Emission Units C09 (Small Parts Electro deposition System, Including Rinse Tanks, Dip Tank, and Oven (Line 1) have machine points that are subject to New Source Performance Standards (NSPS) 40 CFR 60 Subpart MM.

The PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK.

The PM emissions from arc welding (Emission Unit C03) are controlled with Dust Collectors 300 DC01 & DC02. The PM emissions from the fuel tank antichip coating booths (Emission Unit C10) are controlled with Booth Filters FTAC01 & FTAC02.

C18 Spot welding potential to emit is calculated assuming 230,000 cases per year and an engineering estimation factor of 0.0025 lbs PM per case processed. No welding wire or rod is consumed at this activity. 401 KAR 51:017 Prevention of significant deterioration of air quality does not apply to C18 due to it not being added as a part of a PSD revision.

Emission Units D02-D11, Facilities Control

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	N/A	Compliance Assumed
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Monthly Opacity Observations
PM	0.1 lb/MMBtu	401 KAR 59:015,	AP-42 Chapter 1.4.	Assumed based upon

Emission Units D02-D11, Facilities Control				
		Section 4(1)(b)		natural gas combustion
Opacity	20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	0.8 lbs/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
PM _{2.5} , NO _x , CO _{2e}	787.82 million cubic feet of natural gas per year (12 month rolling) from D11A and D11B	Preclude 401 KAR 51:017	N/A	Recordkeeping of Natural Gas Usage
PM ₁₀ , NO _x , CO _{2e}	1485.58 million cubic feet of natural gas per year (12 month rolling) from Paint Line #1 Rebuilt	Preclude 401 KAR 51:017	N/A	Recordkeeping of Natural Gas Usage
VOC (D11A/D1 1B)	0.0054 lb VOC/MMBtu	401 KAR 51:017	AP-42 Chapter 1.4.	Assumed based upon natural gas combustion
PM (D03A)	10.6 Tons/year	401 KAR 51:017	AP-42 Chapter 1.4.	Monitor Natural Gas Usage
SO ₂ (D03A)	0.8 Tons/year	401 KAR 51:017	AP-42 Chapter 1.4.	Monitor Natural Gas Usage
NO _x (D03A)	139.3 Tons/year	401 KAR 51:017	AP-42 Chapter 1.4.	Monitor Natural Gas Usage
CO (D03A)	117.0 Tons/year	401 KAR 51:017	AP-42 Chapter 1.4.	Monitor Natural Gas Usage
VOC (D03A)	7.7 Tons/year	401 KAR 51:017	AP-42 Chapter 1.4.	Monitor Natural Gas Usage
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 3/1991 for D02, D03A, D03B, D05, D06; 7/1986 for D04A, D04B, D07, D08, D09; 3/2014 for D11A, D11B				

Emission Units D02-D11, Facilities Control

Process Description:

- D02 Wastewater Pretreatment Facility (Insignificant Activities List)
- D03A Indirect / Direct Bldg. Heat Combustion Units (Plant 2) > 1 MMBtu/hr (Natural Gas Only) (Total Capacity 622.4 MMBtu/hr)
- D03B Indirect / Direct Shop Process Combustion Units (Plants 2) > 1 MMBtu/hr (Natural Gas Only) (Total Capacity = 592.81 MMBtu/hr)
- D04A Indirect / Direct Bldg. Heat Combustion Units (Plant 1) > 1 MMBtu/hr (Natural Gas Only) (Total Capacity 350.4 MMBtu/hr)
- D04B Indirect / Direct Shop Process Combustion Units (Plant 1) > 1 MMBtu/hr (Natural Gas Only) Total Capacity = 748.38 MMBtu/hr – including existing Plant 1 process units
Total Capacity = 476.58 MMBtu/hr – after remove existing Plant 1 process units
- D05 Cooling Tower Facilities, including primary towers and individual building towers (Insignificant Activities List)
- D06 Raw Material Storage / Supply
- D07 Backup Generators utilizing #2 Fuel Oil
D07(01, 02) Two (2) Backup Generators (17.45 MMBtu/hr, each), August 27, 1992
D07(03) One (1) Backup Generator (34.74 MMBtu/hr), July 17, 1986
D07(04) One (1) Backup Generator (2.26 MMBtu/hr, Mobile Unit), 1996
D07(05, 06) Two (2) Backup Generators (8.48 MMBtu/hr, each), 2002
D07(07) One (1) Backup Generator (17.45 MMBtu/hr, Mobile Unit), 2003
D07(08) Two (2) Backup Fire Pumps (269 HP, each), 1987
- D08 Miscellaneous Combustion Sources, including Indirect Heat Exchangers $\leq$ 1 MMBtu/hr (Insignificant Activities List)
- D09 Non-Process Cleaning
- D11A Indirect / Direct Bldg. Heat Combustion Units (Line 3) > 1 MMBtu/hr (Natural Gas Only) (Total Capacity 49.99 MMBtu/hr)
- D11B Indirect / Direct Shop Process Combustion Units (Line 3) > 1 MMBtu/hr (Natural Gas Only) (Total Capacity = 184.3 MMBtu/hr)

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(D03A, D11A, D11B)

401 KAR 59:010, *New Process Operations*
(D02, D05)

401 KAR 59:015, *New Indirect Heat Exchangers*
(D03A, D03B, D04A, D04B, D11A, D11B)

401 KAR 59:050, *New Storage Vessels for Petroleum Liquids*
(D06)

401 KAR 59:185, *New solvent metal cleaning equipment*
(D09)

Emission Units D02-D11, Facilities Control

401 KAR 63:002 Section 2(4)(eeee) 40 C.F.R. 63.6580 to 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,
(D07)

401 KAR 63:002 Section 2(4) (iiii) 40 C.F.R. 63.7480 to 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
(D03B, D04B, D11B)

State-Origin Requirements:

401 KAR 63:020, Potentially hazardous matter or toxic substances
(D06)

Comments:

The 401 KAR 59:015 allowable emission limits for D03, D04, and D011 are for units whose sum total heat input capacity for all affected facilities is greater than 250 MMBtu/hr.

The pollutants emitted from Facilities Control are the products of combustion from indirect heat exchangers (Emission Units D01, D03, D04, D08 and D11) and back-up generators (Emission Unit D07), and VOC emissions from Raw Material Storage / Supply (volatile liquid storage tanks, Emission Unit D06).

Emission Unit D01(**removed**) was four (4) utility boilers that are capable of burning either natural gas or #2 fuel oil. Construction commenced on these boilers July 17, 1986. Three of the boilers have a capacity of 99 MM BTU/hour and one has a capacity of 50 MM BTU/hour

The total capacity of Plant 2 (Emission Units D03A and D03B) indirect heat exchangers is 1205 MMBtu/hour. Indirect heat exchangers at plant 2 are organized as follows: Building 800 (Powertrain), Building 2000 (Paint 2), Building 3000 (Assembly 2), Building 100A (Body Operations 2), Building 400A (Plastics 2).

Plant 1 indirect heat exchangers account for (Emission Units D04A and D04B) 639.6 MMBtu/hour of capacity. Line 1 indirect heat exchangers are organized as follows: Building 100 (Body Operations 1), Building 250 (Paint 1), Building 300 (Assembly 1), Building 400 (Plastics 1) and Building 601/602 (Facilities Control).

The total capacity of Line 3 (Emission Units D11A and D11B) indirect heat exchangers is 234.29 MMBtu/hour. Line 3 indirect heat exchangers are organized as follows: Building 2000 Addition (Paint 2), Building 3000 Addition (Assembly 2), Building 100A (Body Operations 2), Building 400 (Plastics 3).

40 CFR 63 Subpart DDDDD does not apply to D03A, D04A, and D011A because all applicable boilers are hot water heaters as defined in 40 CFR 63 Subpart DDDDD.

40 CFR 60 Subpart Kb does not apply to D06 because none of the bulk storage tanks contain volatile organic liquids with a design capacity greater than 75 cubic meters but less than 151 cubic meters do not have a maximum true vapor pressure greater than or equal to 27.6 kPa.

Emission Units D02-D11, Facilities Control

40 CFR 63 Subpart EEEE does not apply to D06 because none of the stored liquids meet the definition of organic liquid under 40 CFR 63 subpart EEEE.

40 CFR 63 Subpart CCCCCC does not apply to D06 because the facility is not an area source of HAP.

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Opacity Observations
VOC (E02R)	0.185 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥90% DRE) Monitoring and Recordkeeping of raw material usage
VOC (E04R)	1.15 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥90% DRE) Monitoring and Recordkeeping of raw material usage
VOC (E05R)	2.11 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Monitoring and Recordkeeping of raw material usage
VOC (E07R)	3.86 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Monitoring and Recordkeeping of raw material usage
VOC (E09R)	0.11 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (E11R)	0.27 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (E13R)	3.09 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM (E01R)	0.54 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E05R)	4.02 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building				
PM (E07R)	7.43 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E09R)	0.59 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E11R)	1.33 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E12R)	0.93 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E13R)	0.26 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E14R)	2.23 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E15R)	1.63 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (E18R)	1.02 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Paint #1 Rebuilt	809 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Paint #1 Rebuilt	25.65 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC (E02R)	0.17 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
VOC (E04R, E05R, E12R)	1.40 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
VOC (E05R, E07R, E09R, E12R)	1.47 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
HAP*	0.072 kg HAP/liter coating solids	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building				
	(0.60 lb/gal)			5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 5/2016 for all units Process Description: E01R Metal Pretreatment System, including degrease and conversion coating processes E02R Electro deposition Coating System, including rinse tanks, dip tank, dry sanding, and oven (RTO3 for VOC) E03R Metal Finishing Line, including metal assembly (Insignificant Activities List) E04R (Uses RTO-3 to control VOC) Sealer Line and Oven, including: Solvent Wiping Stations (uncontrolled) Seam Sealer Stations (robot and manual application) Seal Damping Coat Area PVC Booths (Undercoat, mask, unmask, PVC rocker, flange & wheel arch, underbody and touch-up) Bake Oven E05R (VOC controlled by RTO-05 and 06, PM controlled by Scrubbers TS11) Primer Booths D and E, including: Solvent Wiping and Blow-off (uncontrolled) Primer Booths, Heated Flash Off, E07R (VOC controlled by RTO-05 and 06, PM controlled by Scrubbers TS11) Topcoat Lines D and E, including: Solvent Wiping and Blow-off Area (uncontrolled) Basecoat Booths, Heated Flash Off, Clearcoat Booths, Bake Ovens, D and E				

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building

E08R Inspection Lines (Insignificant Activities List)
E09R (PM controlled by dry filters) Blackout Coating, including grille blackout, wheelhouse blackout and windshield blackout
E10R Moon Roof Installation (Insignificant Activities List)
E11R Wax Coating, including cavity wax, hinge wax and spot wax
E12R Repair Deck Operations, including ED, sealer, primer, topcoat and blackout repairs
E13R Non-Process Cleaning Activities, including caustic stripping, grate coating, water blasting, line purging, shot blasting, cold cleaner and surface cleaning
E14R Raw Material Supply Systems, including ED system supply and paint mix/supply rooms
E15R Water/Wastewater Treatment Operations, including all De-ionizing processes and sludge pool processes
E16R Robot Teaching Booth (Insignificant Activities List)
E17R Two Tone Masking Booth (Insignificant Activities List)
E18R General Exhaust

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(E01R, E02R, E04R, E05R, E07R, E09R, E11R, E12R, E13R, E14R, E15R, E18R)

401 KAR 59:010, *New Process Operations*
(All Units)

401 KAR 59:185, *New solvent metal cleaning equipment*
(E13R)

401 KAR 60:005 Section 2(2)(tt) 40 C.F.R. 60.390 to 60.398 (Subpart MM), *Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations*
(E02R, E05R, E07R, E09R, E12R)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(E02R, E04R, E05R, E07R, E11R, E12R, E13R)

40 CFR 64, *Compliance Assurance Monitoring (CAM)*,
(E05R, E07R)

Comments:

PAINT #1 REBUILT PROJECT (E01R ~ E18R)

TMMK submitted a significant permit revision application on August 14, 2015 to rebuild Paint #1 facility (E01 ~ E18) at the TMMK vehicle assembly plant. TMMK will construct a building expansion to accommodate replacement of Paint #1 facility. Actual-to-projected actual PSD applicability test was performed on VOC emissions for this proposed project. The results from the PSD applicability test with the

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building

demand growth exclusion are less than significant emission rate. Therefore, this project is not considered a PSD major modification and will not trigger any further PSD review [V-15-062 R1 APE20150010].

I. Proposed Project Description

The proposed project will replace existing Paint #1 which includes Emission Units E01 thru E18. The replacement Paint #1, refer as E01R thru E18R, will include two wet on wet primer/basecoat/clearcoat paint lines that will be referred to as Lines D and E. These lines will replace the existing Primer Line and Topcoat Lines A, B and C. The new D and E Lines will be designed as a wet on wet painting system with a combination of waterborne primer and basecoat materials and solventborne clearcoat materials. The process flow of new D and E Lines are primer booth followed by the heated flash, then basecoat booth followed by the heated flash, and then clearcoat booth and bake oven. The fluidized bed concentrator and thermal oxidizer will be utilized to control VOC and HAPs emissions from the heated flash zones associated with primer and basecoat and also control the clearcoat booth. The overall control efficiency will be 81 percent which is based on an 85 percent concentrator efficiency and a thermal oxidizer efficiency of 95 percent. For the bake oven, the thermal oxidizer will be utilized as VOC abatement equipment. The control efficiency of thermal oxidizer will be 95 percent. The design rate of the Paint #1 existing operations is 341,298 vehicles per year. There will be no change in production capacity for this replacement project.

The additional natural gas combustion units will be installed to support new Paint #1. The total capacities of new units are 459.18 MMBtu/hr which includes 373.78 MMBtu/hr for shop process combustion units and 85.4 MMBtu/hr for building heating units. The existing building structure and building heating equipment will remain intact. Therefore the total 85.4 MMBtu/hr of existing HVAC units will remain in service. The existing Paint #1 shop process combustion units 271.8 MMBtu/hr will be permanently disabled or removed. The changes will be incorporated in emission units D04A and D04B.

II. Project Emissions

Based on the emissions estimated below, emissions of all regulated air pollutants will below the PSD Significant Emission Rates thresholds, as such the proposed project will not be considered a major modification of an existing major stationary source for PSD purposes.

Pollutants	Actual-to-Projected Actual Emissions from Natural Gas Combustion Units (tpy)	Actual-to-Projected Actual Emissions from Process Units Including Demand Growth (tpy)	Combined Emission Increase (tpy)	PSD Significant Emission Rates (tpy)
PM/PM ₁₀ /PM _{2.5}	4.71	2.94	7.65	25/15/10
VOC	3.41	-10.8	-7.39	40
NO _x	31.73	--	31.73	40
CO	52.05	--	52.05	100
SO ₂	0.37	--	0.37	40
CO ₂	73880	--	73880	--

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building

N₂O	0.139	--	0.139	--
Methane	1.39	--	1.39	--
CO_{2e}	73,952	--	73,952	75,000

Heating equipment for the existing Paint #1 building will remain in effect. No credit for actual emissions has been included in the baseline emissions from building heating natural gas combustion units. Baseline emissions for natural gas combustion only include shop process units.

The replacement of the Sealer Line submitted with this revision was evaluated and determined to be a single project with the vehicle model change PSD project (V-15-62 issued on February 25, 2016). The Sealer Line with the vehicle model change project was evaluated for BACT limit and top-down controls. The BACT was determined to be oven control for the Sealer Line. The current Paint #1 replacement will have the same BACT determination as the vehicle model change project.

The emissions increase was evaluated as part of vehicle model change PSD modification and the increase was calculated using Actual to Projected actual emission methodology. The actuals and the projected actuals were calculated for the entire sealer line. Because emission increase was evaluated as part of vehicle model change PSD modification, therefore the Division agrees with TMMK not to include the sealer line emissions in the Paint #1 Rebuilt project.

III. PSD Applicability Tests

Actual-to-projected actual applicability test was conducted for VOC emissions on Paint #1. The consecutive 24 month period used to calculate baseline actual emissions (BAE) for existing Paint #1 was selected from July 2012 to June 2014. Projected actual emissions (PAE) are estimated for new Paint #1 utilizing could have accommodated provision to exclude demand growth emissions. In projecting the emissions as part of Actual to Projected actual emissions according to 401 KAR 51:001, Section 1(199)(b) 1.c., the permittee is allowed to Exclude, in calculating any increase in emissions that results from a project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive twenty-four (24) month period used to establish the baseline actual emissions and that are also unrelated to the project, including any increased utilization due to product demand growth.

Projected actual emissions are estimated to be 583 tons per year based on total 341,298 vehicles per year which is permitted production volume.

TMMK submitted past production data with the number of vehicles produced monthly during baseline period from July 2012 to June 2014. The highest monthly production is 24,613 vehicles. The existing Paint #1 could have accommodated 24,613 vehicles/month (295,356 vehicles/year). Therefore 295,356 vehicles/year is considered the production that existing Paint #1 could have accommodated during this baseline period selected and this production rate is less than 341,298 vehicles per year as permitted. This product demand growth is also unrelated to the proposed Paint #1 Rebuilt project.

Emission Units E01R-E18R, PAINT #1 Rebuild, 250 Building

VOC Emissions from Paint #1

Baseline Actual Emissions (tpy)	Emissions, could have accommodated (tpy)	Demand Growth Exclusion (tpy)
475.83	593.8	117.97

Baseline actual production rate (average rate) is 236,678 vehicles/year. Baseline actual emission is 475.83 tons per year. Therefore actual emissions are expressed as lbs/vehicle is 4.0209. Demand growth emissions are calculated based on 4.0209 lbs/vehicle and 295,356 vehicles/year which results in emissions 593.8 tons per year that an existing unit could have accommodated. Therefore demand growth exclusion is 117.97 tons per year.

Actual-to-Projected Actual Applicability Test

Projected Actual Emissions (tpy)	Projected Actual Emissions with Demand Growth Exclusion (tpy)	Emission Increase = PAE – BAE (tpy)
583	465.03	-10.8

Projected actual emissions including demand growth exclusion is 465.03 tons per year. Actual-to-projected actual applicability test results -10.8 tons per year of VOC emissions for Paint #1 Rebuilt process units, with increase from natural gas combustion units (3.41 TPY) which results -7.39 tpy. The combined emissions from Paint #1 Rebuilt process units and natural gas combustion units is -7.39 tpy which below 40 tpy significant emissions increase of VOC. Therefore this project will not trigger PSD applicability.

Paint #1 VOC emission limit decreased from 1,865 tons per year to 809 tons per year and PM emission limit decreased from 59.1 tons per year to 25.65 tons per year as results of proposed Paint #1 rebuilt project.

Throughput used during PSD applicability test:

Production Line	Emission Units	Production Rate (vehicles per year)	Permit Action
Line 1 (Paint #1 & Plastic 1)	E01R ~ E18R, Plastic 1	341,298	Paint 1 Rebuilt, APE 20150010, V-15-062 R1

Emission Units F01-F26, PAINT #2 2000 Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010,	N/A	Weekly Opacity

Emission Units F01-F26, PAINT #2 2000 Building				
		Section 3(1)		Observations
VOC (F02)	0.19 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥93% DRE) Monitoring and Recordkeeping of raw material usage
VOC (F04)	1.15 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Monitoring and Recordkeeping of raw material usage
VOC (F05)	2.73 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Monitoring and Recordkeeping of raw material usage
VOC (F06)	0.13 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (F07)	3.86 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (F09)	0.55 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (F11)	0.27 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (F13)	3.09 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (F19)	0.116 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥90% DRE) Monitoring and Recordkeeping of raw material usage
VOC (F20)	0.8 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥90% DRE) Monitoring and Recordkeeping of raw material usage
VOC (F21)	1.026 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (F22)	3.54 lb/job	401 KAR 51:017	Material Balance &	Oxidizer (≥95% DRE)

Emission Units F01-F26, PAINT #2 2000 Building				
			MSDS	Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (F25)	1.68 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (F26)	0.186 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM (F02)	0.22 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F05)	1.91 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F06)	0.53 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F07)	7.42 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F09)	0.22 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F12)	0.18 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F13)	1.00 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (F18)	1.00 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Paint #2 (F01-F18)	1571 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Paint #2 Line 3 (F19-24)	197 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Paint #2 Line 3 (F25-F26)	65 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Paint #2 (F01-	60.62 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw

Emission Units F01-F26, PAINT #2 2000 Building				
F18)				material usage
VOC (F02, F19)	0.17 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
VOC (F04, F05, F12, F20, F21, F24)	1.40 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
VOC (F05, F07, F09, F12, F22, F24)	1.47 kg VOC/ liter solids	40 CFR 60 Subpart MM	Material Balance & MSDS	Monitoring, Recordkeeping, Monthly Calculations
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart III 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart III 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/ kg material	40 CFR 63 Subpart III 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations

Emission Units F01-F26, PAINT #2 2000 Building

***Emission limits for** combined organic HAP emissions to the atmosphere from electrodeposition primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations.

****Emission limits for** electrodeposition primer systems that meet the standards of 40 CFR 63.3092(a) or (b).

*****Emission limits for** non-glass bonding adhesive, non-glass bonding sealer, and all deadener material

Initial Construction and/or Modification Date: 3/1991 for F01-F18, 3/2014 for F19-F26

Process Description:

- F01 Phosphate System, including de-greasing tank, rinse tanks, and phosphate dip tank
- F02 (VOC controlled by Oxidizer TT02) Electrodeposition Coating System, including rinse tanks, dip tank, dry sanding, and oven
- F03 Metal Finishing Line, including metal assembly (Insignificant Activities List)
- F04 (VOC controlled by Oxidizer TT03) Sealer Line and Oven, including:
 - Solvent Wiping Areas (not controlled)
 - Seam Sealer Area (robot and manual application)
 - Damping Coat Area
 - PVC Booths (underbody and touch-up)
 - Bake Oven
- F05 (VOC controlled by VOC Concentrator TC01 and Oxidizers TT10 and TT05, PM Controlled by Scrubbers) Primer Booth and Oven, including:
 - Solvent Wiping and Blow-off (not controlled)
 - Soft Chip
 - Exterior
 - Interior
 - Door sash and Rocker
 - Oven
- F06 Wet Sand Line, including wet sand and dry sand booth, re-coat dry sand booth, touch-up booth (not in Use) and oven (Not in use)
- F07 (VOC controlled by VOC Concentrators TC02 and TC03, and Oxidizers TT06, TT08, TT07, TT09 and TT03, PM Controlled by Scrubbers and exhaust filters) Topcoat Lines A and B, including:
 - Solvent Wiping and Blow-off Area (not controlled)
 - All Coating Applications,
 - Bake Ovens A & B
- F08 Inspection Lines (Insignificant Activities List)
- F09 (PM controlled by exhaust filters) Blackout Coating, including grille blackout, wheelhouse blackout and windshield blackout and touch-up station
- F10 Moon Roof Installation (Insignificant Activities List)
- F11 Wax Coating, including cavity wax, hinge wax, spot wax and rocker wax
- F12 Repair Deck Operations, including ED, sealer, primer, topcoat and blackout repairs
- F13 Non-Process Cleaning Activities, including, grate coating, water blasting, line purging, cold cleaner and surface cleaning
- F14 Raw Material Supply Systems, including ED system supply and paint mix/supply rooms

Emission Units F01-F26, PAINT #2 2000 Building

- F15 Water/Wastewater Treatment Operations, including all De-ionizing processes and sludge pool processes (Insignificant Activities List)
- F16 Robot Teaching Booth (Insignificant Activities List)
- F17 Two Tone Masking Booth (Insignificant Activities List)
- F18 General Exhaust
- F19 (VOC controlled by Oxidizer TT12) Electrodeposition Coating System, including rinse tanks, dip tank, dry sanding, and oven
- F20 (VOC controlled by Oxidizer TT03) Sealer and PVC application line and Oven
Sealer Area (robot and manual application)
Dampening Coat Area
PVC Area (underbody coat robot and manual application)
Bake Oven
- F21 (VOC controlled by VOC Concentrator TC04 and Oxidizers TT13 and TT11, PM controlled by scrubbers) VOC Primer Booth and Oven, including:
Hood Soft Chip/Rocker Antichip
Interior/ Exterior
Oven
- F22 (VOC controlled by VOC Concentrator TC04 and Oxidizers TT13 and TT11, PM controlled by scrubbers) Topcoat Booth and Oven, including:
Basecoat Booth
Clearcoat Booth
Bake Oven
- F23 Wax Coating, including cavity wax, hinge wax, spot wax and rocker wax
- F24 Repair Operations, including offline repair, underbody touchup booth and repair polish booth
- F25 Non-Process Cleaning Activities, including, grate coating, water blasting, line purging, and surface cleaning
- F26 Miscellaneous Process Cleaners - Wiping Solvents

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(F02, F04, F05, F06, F07, F09, F11, F12, F13, F18, F19, F20, F21, F22, F25, F26)

401 KAR 59:010, *New Process Operations*
(All Units)

401 KAR 59:185, *New solvent metal cleaning equipment*
(F13)

401 KAR 60:005 Section 2(2)(tt) 40 C.F.R. 60.390 to 60.398 (Subpart MM), *Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations*,
(F02, F04, F05, F07, F09, F12, F19, F20, F21, F22, F24)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(F02, F04, F05, F07, F09, F11, F12, F13, F19, F20, F21, F22, F23, F24, F25, F26)

Emission Units F01-F26, PAINT #2 2000 Building

40 CFR 64, Compliance Assurance Monitoring (CAM)
(F07, F22)

Comments:

The pollutants emitted from this shop are PM and VOC. VOC emissions originate from electrodeposition coating, sealer coating application, primer coating application, sanding operations, topcoat application, blackout application, wax application, repair painting application and non-process cleaning activities. The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), carry over efficiency (if applicable, derived from testing), booth control efficiency (if applicable, derived from testing), oven control efficiency (if applicable, derived from testing), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data). Capture efficiency of VOC emissions from oven baking to oven incinerators is assumed to be 100% in the calculations presented in the application. Testing to verify this assumption will be required by the Title V permit. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. In Paint #2 primers are solventborne. Topcoats include basecoat, clearcoat and solid coat. Basecoat is waterborne, clearcoat is solvent borne and solid coat is solvent borne.

The permittee opted to remove anti-chip/PVC process from EU F04 Sealer into the F05 Soft chip to reflect the actual condition and use. This move precluded PSD applicability of PM₁₀/PM_{2.5} emissions [V-15-062, Vehicle model change PSD application].

Throughputs used during PSD review:

Production Line	Emission Units	Production Rate (vehicles per year)	Permit Action
Line 2 (Paint #2 & Plastic 2)	F01~F18, Plastic 2	262,000	F-94-001
Line 3 (Lexus Line)	C15, C16, D11A/B, F19~F27, G26~G28, M01~M09	70,000	APE20130001, V-10-009 R5

Emission Units G01-G29, Plastics 400/400A Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Opacity Observations

Emission Units G01-G29, Plastics 400/400A Building				
VOC (G04)	0.26 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (G19)	1.17 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (G20)	0.24 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (G21)	0.21 lb/job	401 KAR 51:017	Material Balance & MSDS	Oxidizer (≥95% DRE) Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (G22)	1.04 lb/job	401 KAR 51:017	Material Balance & MSDS	Main Control: 81% Control Efficiency Backup Controls: Oxidizer (≥95% DRE) Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (G26)	0.88 lb/job	401 KAR 51:017	Material Balance & MSDS	Main Control: 81% Control Efficiency Backup Controls: Oxidizer (≥95% DRE) Concentrator (≥85% Collection Efficiency) Monitoring and Recordkeeping of raw material usage
VOC (G27)	0.36 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (G28)	0.45 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM (G04)	0.41 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G13)	1.28 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G17)	0.56 lb/hr	401 KAR 51:017	Material Balance &	Monitoring and

Emission Units G01-G29, Plastics 400/400A Building				
			Test Data	Recordkeeping of raw material usage
PM (G19)	0.14 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G20)	2.36 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G21)	0.99 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G22)	5.42 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM (G24)	1.73 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC Plastics Line 2 Operations	498 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Plastics Shop (without Line 3)	1047 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Plastics Line 3 (G26)	31 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC Plastics Line 3 (G27-G28)	28 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM Plastics Shop (G01-G25)	68.5 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
PM Plastics Line 2 Operations	27.4 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control

Emission Units G01-G29, Plastics 400/400A Building				
				Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 3/1991 for G01, G02, G04, G05, G12, G13, G17, G24; 7/1986 for G19, G20; 1/2016 for G21; 6/2015 for G22; 8/1999 for G25; 8/2014 for G26; 3/2014 for G27 and G28; 2017 for G29; 6/2025 for G14b Process Description: G01 Thermal Injection Molding Operations G02 Source Shutdown / Removed G04 Repair Painting G05 Raw Material Supply Systems, including injection part and bumper painting, exterior painting, injection molding (silos), monofoam, mold release, slush molding supply and regrind G13 (PM controlled by Fluidized Bed Filters) Slush Molding Operation, including molding, miniblasting, dry ice machine, and repair painting G14b Vacuum Form Machines G17 Water/Wastewater Treatment Operations, including sludge pool processes G19 Non-Process Cleaning Activities, including paint stripping, water blasting, line purging, surface cleaning cold cleaner, jig cleaning and chemical honing G20 Monofoam Molding, including turntables, clamp molds, hot knife scoring / heat treating, day tanks G21 (VOC controlled by VOC Concentrator RC07 and Thermal Oxidizer RT11. PM controlled by Wet Scrubber and Filter) Exterior Part Painting Operations including: Solvent Wiping, Line B1 (not controlled) All Coating Applications, Line B1 Repair Painting, Line B1 (not controlled) Bake Oven, Line B1 (not controlled) G22 (VOC controlled by Thermal Oxidizer RT12 and, as a backup, VOC Concentrators RC04 and RC05 and Thermal Oxidizers RT08 and RT09. PM controlled by Wet Scrubbers) Bumper Painting Operations including: Solvent Wiping, Lines G & H (not controlled)				

Emission Units G01-G29, Plastics 400/400A Building

Coating Applications, Lines G & H
Repair Painting, Lines G & H (not controlled)
Bake Oven, Lines G & H (not controlled)

G24 General Exhaust

G25 Manifold Assembly Operation (Insignificant Activities List)

G26 (VOC controlled by Thermal Oxidizer RT12 and, as a backup, VOC Concentrators RC06 and RC03, and Thermal Oxidizer RT10 and RT07. PM controlled by Wet Scrubbers and Filters) Plastic Bumper and Rocker Painting Operations including:

Primer/Basecoat/Clearcoat Booths

Bake Oven, Line D (not controlled)

G27 Non-Process Cleaning Activities, including paint stripping, water blasting, line purging, surface cleaning and jig cleaning

G28 Miscellaneous Process Cleaners - Wiping Solvents

G29 Four Plasma Robots (Insignificant Activities List)

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(G04, G13, G17, G19, G20, G21, G22, G24, G26, G27, G28)

401 KAR 59:010, *New Process Operations*
(All Units)

401 KAR 59:185, *New solvent metal cleaning equipment*
(G19)

401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(G04, G19, G21, G22, G26, G27, G28)

40 CFR 64, *Compliance Assurance Monitoring (CAM)*
(G21, G22)

State-Origin Requirements:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*
(D06)

Comments:

The pollutants emitted from this shop are PM, HAPs and VOC. VOC emissions originate from thermal injection molding, interior parts painting, door trim molding, vacuum forming, headliner operations, non-process cleaning operations, monofoam turntable operations, exterior part painting and bumper painting.

The method of calculating VOC emissions for each machine point is a material balance. The components of the material balance are transfer efficiency (if applicable, derived from onsite testing or from reference materials), carry over efficiency (if applicable, derived from testing), booth control efficiency (if applicable, derived from testing), oven control efficiency (if applicable, derived from testing), VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard

Emission Units G01-G29, Plastics 400/400A Building

gallons/job (derived from production data). Capture efficiency of VOC emissions from oven baking to oven incinerators is assumed to be 100%. Testing to verify this assumption will be required by the Title V permit. Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK. In Plastics, primers are waterborne. Topcoats include basecoat, clearcoat and solidcoat. Basecoat is solventborne, clearcoat is solventborne and solid coat is solventborne. BACT limits for VOC and PM from previous operating and construction permits for Plastics 1 were consolidated and redefined for the new emission unit designations in this permit. BACT limits for Plastics 2 for VOC and PM from permit F-99-029 were transferred to the Title V permit. BACT limits for VOC and PM for Line 3 are established in permit V-10-009 R5. Plastics are listed as a single shop in the Title V permit.

The 81% control efficiency for RT12 controlling G22 and G26 is from the combination of G22 and G26 backup controls' combined capture and destruction efficiency. The current backup control concentrators and oxidizers were originally the main controls for these emission units. The coating booths' capture efficiency is a separate item from the above-mentioned control and capture efficiencies for the oxidizers and concentrators.

G14b, Vacuum Form Machines consists of two vacuum mold forming machines and an end mill. The vacuum molds are used to compress layers of composites together, and the end mill machine is used to shape molds for the forming machines. PTE Emissions are based on the assumption of 230,000 parts treated per year. Emissions are from trimming and adhesive curing. The adhesive itself is not applied at this step. 401 KAR 51:017 Prevention of significant deterioration of air quality does not apply to G14b due to it not being added as a part of a PSD revision.

Emission Units H01-H17 Powertrain, 800 Building

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
Opacity	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Opacity Observations
CO (H12(03))	170,000 gallons fuel / rolling 12 months, 92.4 gallons of fuel/hr (daily avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(06))	200,000 gallons fuel / rolling 12 months, 69.3 gallons of fuel/hr (daily	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage

Emission Units H01-H17 Powertrain, 800 Building				
	avg.)			
CO (H12(04))	6,000 gallons fuel / rolling 12 months, 1.9 gallons of fuel/hr (daily avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(07))	6,000 gallons fuel / rolling 12 months, 1.9 gallons of fuel/hr (daily avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(05))	110 engines hot tested/hr, 338983 engines hot tested / rolling 12 months	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping Requirements
CO (H12(08))	64.3 engines hot tested/hr, 342466 engines hot tested / rolling 12 months	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping Requirements
CO (H12(03))	6.39 lb/hr, per cell (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(06))	6.39 lb/hr, per cell (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(04))	2.07 lb/hr (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(07))	2.07 lb/hr (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping of raw material usage
CO (H12(05))	9.30 lb/hr (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping Requirements
CO (H12(08))	6.70 lb/hr (3hr avg.)	401 KAR 51:017	N/A	Catalytic Converter System, Recordkeeping Requirements
VOC (H01)	0.13 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage

Emission Units H01-H17 Powertrain, 800 Building				
VOC (H03)	0.030 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (H04)	0.015 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (H05)	0.031 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
VOC (H08)	0.016 lb/job	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM All Powertrain Operations	3.69 lb/hr	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
VOC All Powertrain Operations	182.4 tons/year	401 KAR 51:017	Material Balance & MSDS	Monitoring and Recordkeeping of raw material usage
PM All Powertrain Operations	16.1 tons/year	401 KAR 51:017	Material Balance & Test Data	Monitoring and Recordkeeping of raw material usage
HAP*	0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP**	0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations, and Every 5 years Testing Control Equipment
HAP***	0.010 kg HAP/kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	Material Balance, MSDS, and Test Data	Monitoring, Recordkeeping, Monthly Calculations
*Emission limits for combined organic HAP emissions to the atmosphere from <u>electrodeposition</u> primer, primer-surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operations plus all coatings and thinners, except for deadener materials and for adhesive and sealer materials that are not components of glass bonding systems, used in coating operations. **Emission limits for <u>electrodeposition</u> primer systems that meet the standards of 40 CFR 63.3092(a) or (b). ***Emission limits for non-glass bonding adhesive, non-glass bonding sealer, and all deadener material Initial Construction and/or Modification Date: 1988 for all units				

Emission Units H01-H17 Powertrain, 800 Building

Process Description:

- H01 All Cutting Operations
V6, L4-1, L4-2, L4-3T (V6, L4-1, L4-2, L4-3T are also called collectively the Engine Lines in the permit)
- H02 Coating Application, including hub and shaft
- H03 All Honing Operations
V6, L4-1, L4-2, L4-3T
- H04 All Grinding Operations
V6, L4-1, L4-2, L4-3T
- H05 Non Process Solvent Cleaning Operations, including, CIPG and other areas
- H06 Corrosion Inhibitor Application
- H07 Source Removed
- H08 Quenching
V6, L4-1, L4-2, L4-3T
- H09 Washing
- H10 Gasket Installation
V6, L4-1, L4-2, L4-3T
- H11 Raw Material Storage / Supply
V6, L4, L4-2, L4-3T, OT-08
- H12, Sub-Assembly and Final Engine Testing
H12-01, Fuel Day Tanks
H12-02, LLC Coolant Fluid Filing
H12-03, L4 Area: Loaded Dynamometer Test (4) Cells
H12-06, V6 Area: Loaded Dynamometer Test (3) Cells
H12-04, L4 Area : Up/Down Test Cells
H12-07, V6 Area : Up/Down Test Cells
H12-05, L4 Area :Hot Testing
H12-08, V6 Area : Hot Testing
- H13 Operational Support, including material supply systems, scrap material handling, tool regrind and maintenance machining (Insignificant Activities List)
- H14 Block Impregnation
- H15 Process Lubrication Activities Building 800
- H15b Process Lubrication Activities in Building 200
- H16 (VOC controlled by Oxidizer KT01) Process Cleaning Operations, *KT01 to be removed Dec. 2023*
V6, L4, L4-2, L4-3T
- H17 Final Assembly Operations

Applicable Regulations:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
(H12(03), H12(06), H12(04), H12(07), H12(05), H12(08), H01, H03, H05, H08)

401 KAR 59:010, *New Process Operations*
(All Units)

401 KAR 59:050, *New storage vessels for petroleum liquids*
(H11 engine oil tanks)

Emission Units H01-H17 Powertrain, 800 Building

401 KAR 59:185, *New solvent metal cleaning equipment*
(H05)

401 KAR 63:002 Section 2(4)(ooo), **40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII)**, *National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks*
(H02, H05, H06, H10, H14, H16)

40 CFR 64, *Compliance Assurance Monitoring (CAM)*
(H12-03 and H-06)

401 KAR 63:002 Section 2(4)(tttt) **40 C.F.R. 63.9280 to 63.9375, Tables 1 through 7 (Subpart P P P P P)**, *National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands* (Existing affected sources do not have to meet Subparts A of 40 CFR part 63 except for initial notification requirements).
(H12)

Comments:

40 CFR 63 Subpart P P P P P applies to existing affected sources, but does not currently list standards for those sources under 40 CFR 63 Subpart P P P P P.

The pollutants emitted from this shop are VOC, HAPs, CO and PM. VOC , HAPs and PM emissions originate from cutting operations, coating operations, honing operations, grinding operations, non-process cleaning activities, corrosion inhibitor application, quenching operations, washing operations, gasket installation, block impregnation, and raw material storage. CO emissions are generated by the engine testing.

Annual PTE for VOC emissions is based on production capacity (jobs/year) and is a shop specification. The method of calculating VOC emissions for each emission points are material balance and testing. The components of the material balance are VOC content (usually derived from Material Safety Data Sheets or technical data sheets directly from the supplier) and standard gallons/job (derived from production data).

The PM emissions are estimated from data collected at Toyota manufacturing plants or from onsite testing conducted by TMMK.

BACT limits for VOC and PM were previously established in permit F-99-029 and are transferred to the Title V permit.

BACT for the Engine Testing (EP H12) were previously established in permit V-10-009.

The emission factor for CO was derived using engineering calculations based on the following and submitted by the source:

- Use of spark-ignition internal combustion engines up to six cylinders in size in both L4 and V6 Areas,
- Review of test patterns in use today and an internal evaluation of those which could be used in the future to derive the worst-case hourly emissions (i.e. evaluating the specific load, speed, air to fuel (A/F) ratio, engine exhaust concentration, etc. each engine operates throughout each time

Emission Units H01-H17 Powertrain, 800 Building

step of the pattern),

- Specifications of engines typically tested in the dynos (i.e. volumetric size, bore/stroke dimensions, combustion design, electronic control unit, etc.),
- Use of standard unleaded gasoline to fuel the engines,
- A mass balance around an isolated engine (i.e. mass of exhaust = mass of intake air + mass of fuel combusted or partially combusted),
- A molar composition estimate of the exhaust gases (i.e. the incomplete chemical reactions that are expected to occur during fuel rich conditions or low A/F ratios which are necessary to prevent the engine from melting/deforming),
- Internal stack tests of typical loaded patterns performed on a representative dyno, and
- Engineering experience and judgment provided by experts in the Powertrain Industry

In application APE20210002, Toyota moved a part of H15 from building 800 to Building 200 forming H15b.

H11 has two 10000 gallon engine oil tanks (OT-08) that are subject to 401 KAR 59:050. These are projected to be constructed in Dec. 2022.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements/Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
E04 – Antichip Booth	None	PM Emissions	401 KAR 59:010	N/A	17	4.13 lb/hr	0.144 lb/hr	60 vehicles/hr	CMN20040002	11/23/2004
E04 – PVC Booth	None	PM Emissions	401 KAR 51:017 401 KAR 60:005	N/A	17		0.208 lb/hr	60 vehicles/hr		11/22/2004
G22 – Booth E	RC01 – Carbon wheel	VOC Destruction Efficiency	401 KAR 51:017	<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	96.4% DRE	250 deg F	CMN20040003	11/8/2004
	RT03 – Carbon wheel incinerator	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	96.0% DRE	1320 deg F		11/9/2004
	RT04 – Oven incinerator	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	97.5% DRE	1325 deg F		11/10/2004
G22 – Booth F	RC02 – Carbon wheel	VOC Destruction Efficiency		<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	96.2% DRE	250 deg F		11/8/2004
	RT05 – Carbon wheel incinerator	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	95.8% DRE	1350		11/11/2004

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	RT06 – Oven incinerator	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	97.3% DRE	1300 deg F		11/12/2004
E05	TT03 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 90%	96.2% DRE	1553 deg F	CMN20050001	1/18/2005
D01 – Boiler 1	Low NOx Burner	NOx Emissions	401 KAR 51:017	Initial	7E	0.143 lb/MMBtu	0.09 lb/MMBtu	44.81 MMBtu/hr	CMN20050002	1/25/2005
D01 – Boiler 2	Low NOx Burner	NOx Emissions	401 KAR 59:015	Initial	7E	0.143 lb/MMBtu	0.09 lb/MMBtu			1/26/2005
E04 – Antichip Booth	None	PM Emissions	401 KAR 59:010 401 KAR 51:017 401 KAR 60:005	N/A	17	0.89 lb/hr	0.044 lb/hr	58 units/hr	CMN20050003	6/1-2/2005
G22 – Oven C	RT01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 95%	96.2% DRE	1375 deg F	CMN20050004	5/5/2005
C09	None	PM Emissions	401 KAR 59:010 401 KAR 51:017	N/A	ASTM D1475	0.44 lb/hr	0.056 lb/hr	108 parts/hr	CMN20050006	6/28/2005
		VOC Emissions	401 KAR 60:005	N/A	ASTM D2369	0.041 lb/job	0.013 lb/hr			6/29/2005

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
E05	N/A, Applicator	Transfer efficiency	401 KAR 59:010	N/A	ASTM D1475	N/A	82% TE	4 vehicles	CMN20050008	6/18/2005
E07	N/A, Applicator	Transfer efficiency	401 KAR 51:017 401 KAR 60:005	N/A	ASTM D2369	N/A	73% TE			
G22 – Booth D	N/A, Applicator	Transfer efficiency	401 KAR 59:010	N/A	ASTM D1475	N/A	53% TE	6 bumpers	CMN20060001	1/21/2006
G22 – Booth E	N/A, Applicator	Transfer efficiency	401 KAR 51:017	N/A	ASTM D2369	N/A	51% TE			1/28/2006
E05	TS03 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 60:005	Every 5 years	17	4.02 lb/hr	0.009 lb/hr	49 vehicles/hr	CMN20060002	2/1/2006
G22 – Oven D	RT02 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 95%	96.7% DRE	126.3 bumpers	CMN20060003	4/13/2006
E07 – Oven A, Oven B	TT12 - Regenerative Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 90%	99% DRE	70 cars/hr	CMN20060004	3/6/2006

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
G21	RI01 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 80%	93.2% DRE	75 rocker sets/hr	CMN20060005	2/8/2006
G03	RF12 – Filter RF13 – Filter	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017	<i>Not listed</i>	<i>Not listed</i>	4.13 lb/hr	0.146 lb/hr	64 parts/hr	CMN20060007	3/29-30/2006
G22 – Booth C	RF07 – Filter	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017	Every 5 years	17	5.42 lb/hr	0.19 lb/hr	35 units/hr	CMN20060009	7/10/2006
	RS09 – Scrubber	PM Removal Efficiency					0.13 lb/hr			
G22 – Booth D	RF08 – Filter	PM Removal Efficiency					0.22 lb/hr			
	RS10 – Scrubber	PM Removal Efficiency					0.16 lb/hr			
G22 – Booth E	RF09 – Filter	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017	Every 5 years	17	5.42 lb/hr	1.84 lb/hr	30 unit/hr	CMN20060010	7/12-13/2006
	RS11 – Scrubber	PM Removal Efficiency								
G22 – Booth F	RF10 – Filter	PM Removal Efficiency						32 unit/hr		

[illegible]

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
E07 – Booth B	TF04 – Filter	PM Removal Efficiency								8/29/2006
	TS08 – Scrubber	PM Removal Efficiency								
G21	RF06 – Filter	PM Removal Efficiency	401 KAR 59:010	Every 5 years	17	0.99 lb/hr	0.178 lb/hr	96 vehicles/hr	CMN20060015	9/27/2006
	RS08 – Scrubber	PM Removal Efficiency	401 KAR 51:017	N/A	N/A		< 0.125 lb/hr			
G21	N/A, Applicator	Transfer efficiency	401 KAR 59:010 401 KAR 51:017	N/A	ASTM D1475 ASTM D2369	N/A	45% TE	8 vehicles/hr	CMN20060016	11/11/2006
F05	TT04 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 95%	99.8% DRE	1443 deg F	CMN20060017	10/11-17/2006
	TC01 – Carbon wheel	VOC Destruction Efficiency	401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 85%	93.7% DRE	1450 deg F		
F07 – Booth A	TT06 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 95%	96.5% DRE	245 deg F	CMN20070002	3/23/2007
F07 – Booth B	TC03 – Carbon wheel	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 85%	93.9 % DRE	255 deg F		3/22/2007

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	TT08 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	99.1% DRE	1453 deg F		3/21/2007
F07 – Booth A	TC02 – Carbon Wheel	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 85%	96.5% DRE	36 cars/hr	CMN20070003	3/21/2007
F07 – Oven A	TT07 Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 95%	55% DRE			
F05	N/A, Applicator	Transfer Efficiency	401 KAR 59:010	N/A	ASTM D1475 ASTM D2369	N/A	64.77% TE	4 vehicles	CMN20070005	3/3/2007
F07 – Booth A	N/A, Applicator	Transfer Efficiency	401 KAR 51:017	N/A		N/A	71.14% TE	4 vehicles		3/3/2007
F07 – Booth B	N/A, Applicator	Transfer Efficiency	401 KAR 60:005	N/A		N/A	73.06% TE	4 vehicles		3/17/2007
F04	N/A, Applicator	Transfer Efficiency		N/A		N/A	98.69% TE	4 vehicles		3/17/2007
F07 – Oven A	TT07 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 95%	97.5% DRE	1431 deg F	CMN20070008	2/27/2007
F07 – Booth A	TC02 – Carbon wheel	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	96.4% DRE	1451 deg F		2/28/2007
F07 – Oven B	TT09 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	99.1% DRE	1428 deg F		3/1/2007
F07 – Booth B	TC03 – Carbon	VOC Destruction		Every 5 years	25A	DRE $\geq$ 95%	97% DRE	1452 deg F		3/1/2007

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	wheel	Efficiency								
G22 – Booth F	RT05 – Thermal Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE ≥ 95%	98.6% DRE	1360 deg F	CMN20080002	3/19/2008
	RC02 – Zeolite wheel	VOC Destruction Efficiency		<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	89.4% DRE	68 units/hr		3/20/2008
F05	TS19 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 60:005	Every 5 years	17	1.91 lb/hr	0.8 lb/hr	62 vehicles/hr	CMN20080003	7/29, 30,31/2008
F07 – Booth A	TS23 – Scrubber	PM Removal Efficiency		Every 5 years	17	7.42 lb/hr	1.7 lb/hr	36 vehicles/hr		8/5,6/2008
F07 – Booth B	TS24 – Scrubber	PM Removal Efficiency		Every 5 years	17					
G22 – Booth F	RC02 – Zeolite wheel	VOC Destruction Efficiency	401 KAR 51:017	<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	93.66% DRE	54 bumpers/hr	CMN20090002	3/17/2009
	RT05 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	98.24% DRE	54 bumpers/hr		
G22 – Oven E	RT04 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	96.20% DRE	54 bumpers/hr		
G22 – Booth E	RC01 – Carbon	VOC Destruction	401 KAR 51:017	<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	93.2% DRE	1335 deg F	CMN20090003	8/24/2009

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	wheel	Efficiency								
	RT03 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	97.4% DRE	1335 deg F		8/24/2009
G22 – Oven E	RT04 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	97.6% DRE	1360 deg F		8/25/2009
G22 – Booth F	RC02 – Zeolite wheel	VOC Destruction Efficiency		<i>Not listed</i>	<i>Not listed</i>	<i>Not listed</i>	93.2% DRE	1355 deg F		8/25/2009
	RT05 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	97.4% DRE	1360 deg F		8/26/2009
G22 – Oven F	RT06 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	99.1% DRE	1335 deg F		8/26/2009
E02, E04	TT01 – Recuperative Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 90%	94.01% DRE	1534 deg F	CMN20090004	11/19/2009
E07	TT12 – Regenerative Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 90%	99.09% DRE	1451 deg F		11/20/2009

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
F05	TT04 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE ≥ 95%	99.7% DRE	68 vehicles/hr, 1463 deg F	CMN20100001	2/16/2010
G22 – Booth C	RS09 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	Every 5 years	17	5.42 lb/hr	0.29 lb/hr	35 units/hr	CMN20100003	8/17/2010
G22 – Booth D	RS10 – Scrubber	PM Removal Efficiency		Every 5 years	17		0.23 lb/hr	34 units/hr		8/18/2010
G22 – Booth E	RS11 – Scrubber	PM Removal Efficiency		Every 5 years	17		0.02 lb/hr	30 units/hr		8/19/2010
G22 – Booth F	RS12 – Scrubber	PM Removal Efficiency		Every 5 years	17		0.01 lb/hr	32 units/hr		8/20/2010
G22 – Oven E	RT04 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE ≥ 95%	97.58% DRE	1446 deg F	CMN20100004	10/26/2010
G22 – Booth E	RC01 – Carbon Wheel	VOC Destruction Efficiency		<i>Not listed</i>	<i>Not listed</i>	1.04 lb/job	91.6% DRE	20.9 lb/hr		10/27/2010
G22 – Booth E	RT03 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	99.23% DRE	1447 deg F		10/28/2010
F07 – Booth A	TC02 – Carbon Wheel	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE ≥ 85%	96.87% DRE	32.3 lb/hr	CMN20100005	11/5/2010

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
F07 – Booth B	TC03 – Carbon Wheel	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 85%	96.31% DRE	33.2 lb/hr		11/8/2010
F07 – Booth A	TT06 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	98.81% DRE	35.9 lb/hr		11/9/2010
F07 – Booth B	TT08 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%				
G04	RS02 – Scrubber	PM Removal Efficiency	401 KAR 63:002 40 CFR 64 401 KAR 51:017	N/A	17	0.86 lb/hr	0.27 lb/hr	80 sets/hr	CMN20100006	11/30/2010
	RS03 – Scrubber	PM Removal Efficiency		N/A						12/1/2010
G21	RI01 – Incinerator	VOC Destruction Efficiency	401 KAR 63:002 40 CFR 64 401 KAR 51:017	Every 5 years	25A	DRE ≥ 80%	89.2% DRE	82 sets/hr	CMN20100007	12/1/2011
H12-03	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017 40 CFR 64	Quarterly in the first year and then yearly	10	6.39 lb/hr/cell	0.15 lb/hr	14.89 gal/hr	CMN20110002	4/4-12/2011
						CE ≥ 96%	99.67% CE			

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing	
H12-06	Catalytic Converter System for each cell	CO Emissions		Quarterly in the first year and then yearly	10	6.39 lb/hr/cell CE ≥ 96%	0.37 lb/hr 99.65% CE	23.49 gal/hr			
H12-07	None	CO Emissions		N/A	10	2.07 lb/hr/cell	0.18 lb/hr				1.64 gal/hr
H12-05	None	CO Emissions		N/A	10	9.3 lb/hr/cell	4.77 lb/hr				25.67 engines/hr
H12-08	None	CO Emissions		N/A	10	6.7 lb/hr/cell	4.64 lb/hr				66.0 engines/hr
H12-06	Catalytic Converter System for each cell	CO Emissions		401 KAR 51:017	Annual	10	6.39 lb/hr/cell CE ≥ 96%				0.704 lb/hr 99.32% CE
H12 -06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell CE ≥ 96%	0.56 lb/hr 99.46% CE	23.41 gal/hr	CMN20110004	10/26/2011	
E05	TS03 – Scrubber	PM Removal Efficiency	401 KAR 60:005 401 KAR 63:002	Every 5 years	17	4.02 lb/hr	0.48 lb/hr	49 jobs/hr	CMN20110005	11/15/2011	
E07 – Booth A	TS07 – Scrubber	PM Removal Efficiency	401 KAR 59:010	Every 5 years	17	7.43 lb/hr	0.99 lb/hr	27 jobs/hr		11/16/2011	
E07 – Booth B	TS08 – Scrubber	PM Removal	401 KAR 51:017							11/17/2011	

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
		Efficiency								
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	0.97 lb/hr	6228 rpm, 21.43 gal/hr	CMN20120001	1/24/2012
						CE $\geq$ 96%	99% CE			
F07 – Oven A	TT07 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Every 5 years	25A	DRE $\geq$ 95%	98.7% DRE	26.3 parts/hr, 1449 deg F	CMN20120002	2/1/2012
F07 – Oven B	TT09 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	99.3% DRE	34.7 parts/hr, 1451 deg F		2/2/2012
G21	RI01 – Incinerator	VOC Destruction Efficiency	401 KAR 63:002 40 CFR 64 401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 80%	78.4% DRE	672 Parts	CMN20120003	2/9/2012
G21	RI01 – Incinerator	VOC Destruction Efficiency	401 KAR 63:002 40 CFR 64 401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 80%	89.5% DRE	671 Parts	CMN20120005	3/20/2012
G21	RI01 – Incinerator	VOC Destruction Efficiency	401 KAR 63:002 40 CFR	Every 5 years	25A	DRE $\geq$ 80%	83.15% DRE	238 Parts	CMN20120006	2/10/2012

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			64 401 KAR 51:017							
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 63:002 401 KAR 51:017	Annual	25A	DRE $\geq$ 80%	86.3% DRE	69 parts	CMN20120007	7/12/2012
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	0.77 lb/hr	28.1 gal/hr, 6228 rpm	CMN20120008	10/23/2012
						CE $\geq$ 96%	99% CE			10/24/2012
G22 – Oven D	RT02 – Thermal Oxidizer	VOC destruction efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 95%	99.5% DRE	1401 deg F	CMN20130001	1/22/2013
F05	TS19 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 40 CFR 64 401 KAR 63:020	Every 5 years	17	1.91 lb/hr	0.19 lb/hr	52 jobs/hr	CMN20130003	7/24/2013
F07 – Booth A	TS23 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 40 CFR	Every 5 years	17	7.42 lb/hr	0.3 lb/hr	25 jobs/hr	CMN20130004	7/26, 29, 30/2013

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			64 401 KAR 63:020							
F07 – Booth B	TS24 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017 40 CFR 64 401 KAR 63:020	Every 5 years	17	7.42 lb/hr	0.2 lb/hr	30 jobs/hr	CMN20130005	7/30-31/2013
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002	Annual	25A	DRE ≥ 80%	85.8% DRE	54 parts	CMN20130006	8/6/2013
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	1.67 lb/hr.	28.13 gal/hr	CMN20130008	10/30/2013
						CE ≥ 96%	98.36% CE			
F04	TT03 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE ≥ 95%	96.8% DRE	1295 deg F	CMN20140001	5/7/2014
G22 Booth E	RC01 – Concentrator	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002 40 CFR	Every 5 years	25A	DRE ≥ 85%	95.15% DRE	68 vehicles/hr, 361 deg F	CMN20140002	6/17/2014

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			64							
G22 Booth E	RT03 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002 40 CFR 64	Every 5 years	25A	DRE ≥ 95%	96.12% DRE	1359 deg F	CMN20140003	6/17-18/2014
G22 – Oven E	RT04 – Thermal Incinerator	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002 40 CFR 64	Every 5 years	25A	DRE ≥ 95%	97.75% DRE	62 vehicles/hr, 1357 deg F	CMN20140004	6/20/2014
G22 – Booth F	RC02 – Concentrator	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002 40 CFR 64	Every 5 years	25A	DRE ≥ 85%	91.84% DRE	67 vehicles/hr, 363 deg F	CMN20140005	6/19/2014
	RT05 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE ≥ 95%	95.58% DRE	62 vehicles/hr 1355 deg F		6/18-19/2014
G22 – Oven F	RT06 – Thermal Incinerator	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Every 5 years	25A	DRE ≥ 95%	97.82% DRE	66 vehicles/hr, 1354 deg F	CMN20140006	6/23/2014
G22 – Oven C	RT02 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 40 CFR	Every 5 years	25A	DRE ≥ 95%	99.0% DRE	1402 deg F	CMN20140007	11/12/2014

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			64							
G21	R101 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Annual	25A	DRE ≥ 80%	93.96% DRE	123 vehicles/hr, 667 deg F	CMN20140008	6/24/2014
E05 & E02 Oven	RTO-01 Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE ≥ 90%	96.6% DRE	1529 deg F	CMN20140009	8/13/2014
E07 – Oven A&B	RTO-02 Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE ≥ 90%	97.4% DRE	1447 deg F	CMN20140010	8/14/2014
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Annual	25A	DRE ≥ 80%	94.1% DRE	752 deg F	CMN20140011	8/12/2014
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	1.30 lb/hr	28.04 gal/hr, 505 deg F	CMN20140012	11/13/2014
						CE ≥ 96%	98.7% CE			
F22	TT13 – Thermal Incinerator	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005 401 KAR 63:002 40 CFR	Every 5 years	25A	DRE ≥ 95%	97.92% DRE	1300 deg F	CMN20150001	2/24/2015

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			64							
F22 – Oven	TT11 – Thermal Incinerator	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Every 5 years	25A	DRE $\geq$ 95%	99.75% DRE	1455 deg F		2/25/2015
F21	N/A, Applicator	Transfer Efficiency	401 KAR 59:010 401 KAR 51:017	N/A	ASTM D1475 ASTM D2369	N/A	81.3% TE	5 vehicles	CMN20150002	5/4/2015
	TC04 – Concentrator	VOC Capture Efficiency		Every 5 Years	25A	CE $\geq$ 85%	44.2% CE			
F22	N/A, Applicator	Transfer Efficiency	401 KAR 60:005 401 KAR 63:002	N/A	ASTM D1475 ASTM D2369	N/A	83.8% TE			
	TC04 – Concentrator	VOC Collection Efficiency		Every 5 Years	25A	CE $\geq$ 85%	42.8% CE			
G21	R101 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 63:002 401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 80%	90.27889% DRE	667 deg F	CMN20150003	6/3/2015
E04	T102 Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE $\geq$ 80%	90.95477% DRE	752 deg F	CMN20150004	6/2/2015

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Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
F05	TC01- Concentrator	VOC Collection Efficiency	401 KAR 51:017 40 CFR 64 401 KAR 60:005 401 KAR 63:002	Every 5 years	25A	CE $\geq$ 85%	94.9% CE	58 vehicles/hr	CMN20150008	9/9/2015
	TT10 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	99.6% DRE	61 vehicles/hr		9/16/2015
F05- Oven	TT05- Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	98.1% DRE	59 vehicles/hr, 1449 deg F		9/9/2015
F07 – Booth A	TC02- Concentrator	VOC Collection Efficiency		Every 5 years	25A	CE $\geq$ 85%	93.4% CE	29 vehicles/hr		9/15/2015
F07- Booth B	TC03- Concentrator	VOC Collection Efficiency		Every 5 years	25A	CE $\geq$ 85%	91.9% CE	29 vehicles/hr		9/14/2015
F07	RTO 03- Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 95%	98.5% DRE	60 vehicles/hr, 1567 deg F		9/11/2015
F19	TT12- Thermal Oxidizer	VOC Destruction Efficiency		Every 5 years	25A	DRE $\geq$ 90%	96.5% DRE	59 vehicles/hr, 1453 deg F		9/10/2015
G26	RC03 – Concentrator	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	CE $\geq$ 85%	94.8% CE	14 sets/hr	CMN20150009	9/2/2015, 9/3/2015
H12-06	Catalytic Converter	CO Emissions	401 KAR 51:017	Annual	10	CE $\geq$ 96%	98.6% CE	22.15 gal/hr, 485 deg F	CMN20150010	10/14/2015

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	System for each cell					6.39 lb/hr/cell	1.39 lb/hr			
F19	TT12 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 60:005 401 KAR 63:002	Every 5 years	25A	DRE ≥ 90%	97.77% DRE	46 lb/hr, 1297 deg F	CMN20160001	3/8/2016
F20	TT03 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017	Every 5 years	25A	DRE ≥ 90%	97.08% DRE	9.67 lb/hr, 1600 deg F		3/9/2016
F22	TS25 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401KAR 51:017 401 KAR 63:002 401 KAR 60:005 40 CFR 64	Every 5 years	17	N/A	0.018 lb/hr	1304 parts	CMN20160002	3/22/2016
G26	RC06 – Concentrator	VOC Collection Efficiency	401 KAR 59:010 401 KAR 51:017	Every 5 years	25A	CE ≥ 85%	93.02% CE	350 deg F	CMN20160003	3/15/2016, 3/16/2016, 3/17/2016
	RT10 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 63:002	Every 5 years		DRE ≥ 95%	99.85% DRE	1450 deg F		

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	RS13 – Wet Scrubber	PM Removal Efficiency		Every 5 years	17	NA	99.98% DRE	14 sets/hr		
G21-Oven	RI01 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Annual	25A	DRE ≥ 80%	87.2% DRE	114 pieces/hr, 667 deg F	CMN20160004	6/1/2016, 6/2/2016
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 63:002 401 KAR 51:017	Annual	25A	1.15 lb/job	0.008 lb/job	62 vehicles/hr, 752 deg F	CMN20160005	6/1/2016
						DRE ≥ 80%	87.6% DRE			
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	CE ≥ 96%	98.2% CE	28.1 gal/hr, 6198 rpm	CMN20160006	10/5/2016
						6.39 lb/hr/cell	1.9 lb/hr			
E05	TS03 – Scrubber	PM Removal Efficiency	401 KAR 60:005	Every 5 years	17	4.02 lb/hr	0.43 lb/hr	38 bodies/hr	CMN20160007	10/11/2016
E07 – Booth A	TS07 – Scrubber	PM Removal Efficiency	401 KAR 63:002	Every 5 years	17	7.43 lb/hr	0.56 lb/hr	37 bodies/hr		10/12/2016
E07 – Booth B	TS08 – Scrubber	PM Removal Efficiency	401 KAR 59:010	Every 5 years	17					10/13/2016
C09	WT01 – Thermal	VOC Destruction	401 KAR 51:017	Every 5 years	25A	DRE ≥ 90%	96.28% DRE	1553 deg F, 26 pallets/hr	CMN20170001	4/18-19/2017

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	Oxidizer	Efficiency	401 KAR 63:002 401 KAR 60:005							
F07 – Oven A, Oven B	TT07 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 95%	98.8% DRE	1395 deg F	CMN20170002	2/8/2017
	TT09 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 95%	98.2% DRE	1394 deg F		2/9/2017
F22	TT11 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Every 5 years	25A	DRE $\geq$ 95%	98.6% DRE	1288 deg F		2/10/2017
H16 –L4	KT01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002 401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 90%	99.1% DRE	42 parts/hr, 1301 deg F	CMN20170003	1/25/2017
G22 – Booth H	RT09– Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 59:010	Every 5 years	25A	DRE $\geq$ 95%	99.8% DRE	1351 deg F, 101 parts/hr	CMN20170004	5/23/2017
	RC05- Concentrator	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	CE $\geq$ 85%	94.7% CE	350 deg F, 101 parts/hr		5/24/2017, 5/25/2017
	RS15 – Wet	PM Removal		Every 5 years	17	5.42 lb/hr	0.007 lb/hr, 0.005 lb/hr,	92 trucks/hr		5/22/2017

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	Scrubber	Efficiency					0.006 lb/hr			
G22 – Booth G	RT08 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 59:010	Every 5 years	25A	DRE $\geq$ 95%	99.8% DRE	1349 F, 79 parts/hr	CMN20170005	5/15/2017
	RC04 - Concentrator	VOC Collection Efficiency	401 KAR 51:017	Every 5 years	25A	CE $\geq$ 85%	87.1% CE	180 parts/hr		5/17/2017
	RS14 – Wet Scrubber	PM Removal Efficiency	401 KAR 63:002	Every 5 years	17	5.42 lb/hr	0.024 lb/hr	76 parts/hr		5/19/2017
G22 – Booth G, Booth H Primer	N/A, Applicator testing	Transfer efficiency	401 KAR 63:002 401 KAR 51:017 401 KAR 59:010	N/A	ASTM D1475 ASTM D2369	N/A	74.68% TE	51 (supply) 44 (exhaust) 53 (circ.)	CMN20170006	5/16/2017
G22 – Booth G, Booth H Basecoat	N/A, Applicator testing	Transfer efficiency		N/A		N/A	57.09% TE	51 (supply) 41 (exhaust) 56 (circ.)		
G22 – Booth G, Booth H Clearcoat	N/A, Applicator testing	Transfer efficiency		N/A		N/A	82.14% TE	51 (supply) 54 (exhaust) 59 (circ.)		
G21	R101 - Catalytic Incinerator	VOC Destruction Efficiency	40 CFR 64 401 KAR 51:017	Annual	25A	DRE $\geq$ 80%	89.66% DRE	667 deg F, 120 parts/hr	CMN20170007	6/7/2017

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
E04	T102 - Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	Annual	25A	DRE $\geq$ 80%	96.1% DRE	752 deg F, 59 vehicles/hr	CMN20170008	6/6/2017
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	CE $\geq$ 96%	99.6% CE	26.7 gal/hr	CMN20170009	10/4/2017
						6.39 lb/hr/cell	0.44 lb/hr			
H16 L4-2	KT02 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 90%	98.9% DRE	117 parts/hr, 1545 deg F	CMN20180001	5/15/2018
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017	Annual	25A	DRE $\geq$ 80%	93.9% DRE	753 deg F, 46 vehicles/hr	CMN20180002	6/6/2018
F05	TS19 – Scrubber	PM Removal Efficiency	401 KAR 60:005	Every 5 years	17	1.91 lb/hr	0.18 lb/hr	68 parts/hr	CMN20180003	7/24/2018
F07	TS23 – Scrubber	PM Removal Efficiency	401 KAR 63:002 401 KAR 59:010	Every 5 years	17	7.42 lb/hr	0.54 lb/hr	36 parts/hr		3/1/2018
F07	TS24 – Scrubber	PM Removal Efficiency	401 KAR 51:017	Every 5 years	17	7.42 lb/hr	0.52 lb/hr	38 parts/hr		3/1/2018

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
G21 Booth B1	RS16 – Scrubber	PM Removal Efficiency	401 KAR 63:002 401 KAR 59:010 401 KAR 51:017	Every 5 years	17	0.99 lb/hr	0.055 lb/hr	55 trucks/hr, 110 rocker sets/hr	CMN20180004	8/7/2018
	RT11 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 Years	25A	DRE $\geq$ 95%	99.2% DRE			8/8/2018
	RC07 – Concentrator	VOC Collection Efficiency		Every 5 Years	25A	CE $\geq$ 85%	95.0% CE			8/9/2018
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	1.25 lb/hr	28.1 gal/hr	CMN20180005	10/4/2018
						CE $\geq$ 96%	98.8% CE			
G21 Booth B1 Prime Coating	N/A, Applicator testing	Transfer efficiency	401 KAR 51:017 401 KAR 59:010 401 KAR 63:002	N/A	ASTM D1475 ASTM D2369	N/A	68.11% TE	14 vehicle sets	CMN20180006	8/30/2018
G21 Booth B1 Basecoat Coating	N/A, Applicator testing	Transfer efficiency		N/A		N/A	52.55% TE			
G21 Booth B1 Clearcoa	N/A, Applicator testing	Transfer efficiency		N/A		N/A	60.14% TE			

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
t Coating										
E04	T102 – Catalytic Incinerator	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002	Annual	25A	DRE $\geq$ 80%	95.8% DRE	44 vehicles/hr	CMN20190001	6/11/2019
E02 & E05	RTO-01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 90%	98.78% DRE	1450 deg F	CMN20190002	7/11/2019
E07	RTO-02 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 90%	96.26% DRE	1534 deg F		7/12/2019
H16-L4	KT01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 63:002	Annual	25A	DRE $\geq$ 90%	95.2% DRE	53.7 parts/hr, 1302 deg F	CMN20190003	9/17/2016
H12-06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	1.86 lb/hr	28.1 gal/hr	CMN20190004	10/2/2019
						CE $\geq$ 96%	98.2% CE			
F22	TT13– Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 60:005 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 95%	99.57% DRE	26 bodies/hr, 1415 deg F	CMN20200001	2/25/2020

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	TC04 – Concentrator	VOC Collection Efficiency		Every 5 years	25A	CE ≥ 85%	92.92% CE	345 deg F		
E05R, E07R	N/A	VOC Capture Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002 401 KAR 60:005	Initial	204B, 204D	N/A	68.49% CE	N/A	CMN20200002	7/20/2021
	RTO-03, RTO-05, RTO-06	VOC Destruction Efficiency		Every 5 Years	25A	DRE ≥ 95%	98.59%	1549 deg F		
							98.05%	1549 deg F		
							98.54%	1549.67 deg F		
	TS11, TS12 Scrubbers	PM Removal Efficiency		Every 5 years	17	N/A	Topcoat A 0.81 lb/hr	67 Vehicles/hr		
							Topcoat B 0.86 lb/hr	76 Vehicles/hr		
G26	Concentrator RC03	VOC Collection Efficiency	401 KAR 59:010 401 KAR 51:017	Every 5 years	25A	CE ≥ 85%	95.0% CE	350 deg F	CMN20200003	8/4/2020
	Thermal Oxidizer RT07	VOC Destruction Efficiency	401 KAR 63:002	Every 5 years	25A	DRE ≥ 95%	99.72% DRE	1450 deg F		

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
E05R, E07R	N/A	Solids Transfer Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	N/A	ASTM D1475 ASTM D2369	N/A	Canceled	Canceled	CMN20200004 and CMN20200006	Canceled
F05, F07, F19	Concentrator TC01, TC03, TC04	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002 401 KAR 60:005	Every 5 years	25A	CE ≥ 85%	TC01 92.27%	320.00 deg F	CMN20200005	8/24/2020
							TC03 88.45%	199.33 deg F		
							TC04 90.54%	199.00 deg F		
	Thermal Oxidizer TT01, TT05, TT12, RTO-03	VOC Destruction Efficiency		Every 5 years	25A	F05, F07 DRE ≥ 95%, F19 DRE≥ 90%,	TT12 99.45%	1455.00 deg F		
							TT01 99.55%	1469.67 deg F		
							RTO-03 98.42%	1566.00 deg F		
							TT05 97.48%	1447.00 deg F		
	H12 -06	Catalytic Converter System for each cell		CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell		
CE ≥ 96%			99.5%							
F04, F19, F20	Thermal Oxidizer	VOC Destruction	401 KAR 51:017	Every 5 years	25A	F04, DRE ≥	TT03 98.97%	1402 degrees F	CMN20210001	3/10/2021

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	TT03 TT12	Efficiency	401 KAR 63:002 401 KAR 60:005			95%, F19, F20 DRE ≥ 90%,	TT12 92.83%	1600 degrees F		
G26	Concentrator RC06	VOC Collection Efficiency	401 KAR 51:017	Every 5 years	25A	CE ≥ 85%	94.03%	350 degrees F	CMN20210002	3/10/2021
	Thermal Oxidizer RT10	VOC Destruction Efficiency	401 KAR 63:002	Every 5 years	25A	DRE ≥ 95%	99.97%	1465 degrees F		
H12 -06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell CE ≥ 96%	1.32 lb/hr 98.7%	22.95 gal/hr	CMN2021003	9/29/2021
F21/F22	TS25 Scrubber	PM Emissions	401 KAR 59:010 401 KAR 51:017 401 KAR 60:005 401 KAR 63:002	Every 5 years	Method 17	N/A	0.42 lb/hr	188 cars/run	CMN20210004	10/19/2021
F07 – Oven A, Oven B	TT07 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 60:005	Every 5 years	25A	DRE ≥ 95%	98.4%	1450° F	CMN20220001	2/8/2022
	TT09 –	VOC	60:005	Every 5	25A	DRE ≥	99.0%	1454° F		

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
	Thermal Oxidizer	Destruction Efficiency	401 KAR 63:002	years		95%				
F22	TT11 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 40 CFR 64	Every 5 years	25A	DRE $\geq$ 95%	98.8%	1297° F		
G22 – Booth H	RT09– Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 95%	Canceled	Canceled	CMN20220002 and CMN20220003	Canceled
	RC05- Concentrator	VOC Collection Efficiency		Every 5 years	25A	CE $\geq$ 85%	Canceled	Canceled		Canceled
	RS15 – Wet Scrubber	PM Removal Efficiency		Every 5 years	17	5.42 lb/hr	0.03 lb/hr	188 car/run		5/3/2022
G22 – Booth G	RT08 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 95%	Canceled	Canceled		Canceled
	RC04 - Concentrator	VOC Collection Efficiency		Every 5 years	25A	CE $\geq$ 85%	Canceled	Canceled		Canceled
	RS14 – Wet Scrubber	PM Removal Efficiency		Every 5 years	17	5.42 lb/hr	0.03 lb/hr	187 car/run		5/3/2022
C09	WT01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE $\geq$ 80%	92.1%	1599° F	CMN20220004	6/2/2022

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
			401 KAR 60:005							
G22 – Booth G and H G26 - Bumper and Rocker	RT12– Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 59:010 401 KAR 51:017 401 KAR 63:002	Every 5 years	25A	DRE ≥ 81%	95.5%	1,570 °F	CMN20220005	8/3/2022
H12 -06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	1.45 lb/hr	22.97 gal/hr	CMN2022006	9/28/2022
						CE ≥ 96%	98.6%			
F05 (Prime Booth)	TS19 – Scrubber	PM Removal Efficiency	401 KAR 60:005	Every 5 years	17	1.91 lb/hr	0.38 lb/hr	147 jobs/hr	CMN20230001	6/19/2023
F07 (Topcoat A)	TS23 – Scrubber	PM Removal Efficiency	401 KAR 63:002	Every 5 years	17	7.42 lb/hr	0.3 lb/hr	89 jobs/hr		
F07 (Topcoat B)	TS24 – Scrubber	PM Removal Efficiency	401 KAR 59:010 401 KAR 51:017	Every 5 years	17	7.42 lb/hr	0.33 lb/hr	87 jobs/hr		
F05	Concentrator TC01	VOC Collection Efficiency	401 KAR 51:017 401 KAR 63:002 401 KAR 60:005	Every 5 years	25A	CE ≥ 85%	TC01 99.25%	43 jobs/hr	CMN20230002	6/20/2023

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
C09	WT01 – Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 51:017 401 KAR 63:002 401 KAR 60:005	Every 5 years	25A	DRE ≥ 80%	98.79% DRE	34 pallets/hr	CMN20230003	6/28/2023
G21 Booth B1	RS16 – Scrubber	PM Removal Efficiency	401 KAR 63:002 401 KAR 59:010 401 KAR 51:017	Every 5 years	17	0.99 lb/hr	0.063 lb/hr	152.7 jobs/hr	CMN20230004	6/26/2023
	RT11 – Thermal Oxidizer	VOC Destruction Efficiency		Every 5 Years	25A	DRE ≥ 95%	99.2% DRE	59.7 jobs/hr, 1615 °F		
	RC07 – Concentrator	VOC Collection Efficiency		Every 5 Years	25A	CE ≥ 85%	95.2% CE	77.7 jobs/hr		
H12 -06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	0.69 lb/hr	27 gal/hr controlled, 25 gal/hr uncontrolled	CMN20230006 and CMN20230005	11/28/2023
						CE ≥ 96%	99.3%			
E05R Prime	N/A, Booth Capture Test	VOC Capture Efficiency	401 KAR 51:017	N/A	AST D5087 / ASTM D6266	N/A	56.9% Booth Capture Efficiency	N/A	CMN20240001	5/14/2024
E07R Topcoat							69.9% Booth Capture Efficiency			

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
H12 -06	Catalytic Converter System for each cell	CO Emissions	401 KAR 51:017	Annual	10	6.39 lb/hr/cell	TBD	TBD	CMN20240002	TBD
						CE $\geq$ 96%	TBD			
F22	TT13– Thermal Oxidizer	VOC Destruction Efficiency	401 KAR 60:005	Every 5 years	25A	DRE $\geq$ 95%	TBD	TBD	CMN20250001	TBD
	TC04 Concentrator	VOC Capture Efficiency	401 KAR 63:002			CE $\geq$ 85%	TBD	TBD		

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
9.0 tpy of PM _{2.5}	Preclude BACT Determination	Line 3 (C15, F19~F27, G26, D11A & B, Assembly #3)
39.8 tpy of NO _x	Preclude BACT Determination	Line 3 (D11A & B, M04)
47,570 tpy of CO _{2e}	Preclude BACT Determination	Line 3 (C15, D11A & B, M04)
0.072 kg HAP/liter coating solids (0.60 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(a)	A02, A03, A04, A06, A07, A10, A14, B02, B03, B04, B06, B07, B10, M01, M02, M05, M06, M07, M09, E02R, E04R, E05R, E07R, E11R, E12R, E13R, F02, F04, F05, F07, F09, F11, F12, F13, F19, F20, F21, F22, F23, F24, F25, F26, G04, G19, G21, G22, G26, G27, G28, H02, H05, H06, H10, H14, H16
0.132 kg HAP/liter coating solids (1.10 lb/gal)	40 CFR 63 Subpart IIII 40 CFR 63.3091(b)	
0.010 kg HAP/ kg material	40 CFR 63 Subpart IIII 40 CFR 63.3091(c) and (d)	
0.17 kg VOC/ liter solids	40 CFR 60 Subpart MM	C09, E02R, F02, F19,
1.40 kg VOC/ liter solids	40 CFR 60 Subpart MM	E04R, E05R, E12R, F04, F05, F12, F20, F21, F24,
1.47 kg VOC/ liter solids	40 CFR 60 Subpart MM	E05R, E07R, E09R, E12R, F05, F07, F09, F12, F22, F24
92.4 tons/year VOC Assembly #1 combined	BACT limit (Pursuant to 401 KAR 51:017)	A01-A13
5.26 tons/year PM Assembly #1 combined	BACT limit (Pursuant to 401 KAR 51:017)	A01-A13

61.3 tons/year VOC Assembly #2 combined	BACT limit (Pursuant to 401 KAR 51:017)	B01-B13
8.76 tons/year PM Assembly #2	BACT limit (Pursuant to 401 KAR 51:017)	B01-B13
23 tons/year VOC Assembly #3 combined	BACT limit (Pursuant to 401 KAR 51:017)	M01-M09
5 tons/year VOC Production Control Operations	BACT limit (Pursuant to 401 KAR 51:017)	K01-K07
5 tons/year VOC Quality Control Operations	BACT limit (Pursuant to 401 KAR 51:017)	J01-J04
5 tons/year VOC Logistics	BACT limit (Pursuant to 401 KAR 51:017)	L01-L04
176.1 tons/year VOC Body Operations (line 2)	BACT limit (Pursuant to 401 KAR 51:017)	Line 2 within C01-C17
399.4 tons/year VOC Body Operations (whole)	BACT limit (Pursuant to 401 KAR 51:017)	C01-C17
39.6 tons/year PM Body Operations (whole)	BACT limit (Pursuant to 401 KAR 51:017)	C01-C14
809 tons/year VOC Paint #1 Rebuilt	BACT limit (Pursuant to 401 KAR 51:017)	E01R-E18R
25.65 tons/year PM Paint #1 Rebuilt	BACT limit (Pursuant to 401 KAR 51:017)	E01R-E18R
1571 tons/year VOC Paint #2	BACT limit (Pursuant to 401 KAR 51:017)	F01-F18
197 tons/year VOC Paint #2 Line 3	BACT limit (Pursuant to 401 KAR 51:017)	F19-24
65 tons/year VOC Paint #2	BACT limit (Pursuant to 401 KAR 51:017)	F25-F26
60.62 tons/year PM Paint #2	BACT limit (Pursuant to 401 KAR 51:017)	F01-18
498 tons/year VOC Plastics Line 2 Operations	BACT limit (Pursuant to 401 KAR 51:017)	G01-G29 Line 2 Operations, exclude G14b
1047 tons/year VOC Plastics Shop (without Line 3)	BACT limit (Pursuant to 401 KAR 51:017)	G01-G29 without Line 3 Operations, exclude G14b
31 tons/year VOC Plastics Line 3	BACT limit (Pursuant to 401 KAR 51:017)	G26
28 tons/year VOC Plastics Line 3	BACT limit (Pursuant to 401 KAR 51:017)	G27-G28
68.5 tons/year PM Plastics Shop	BACT limit (Pursuant to 401 KAR 51:017)	G01-G25

27.4 tons/year PM Plastics Line 2 Operations	BACT limit (Pursuant to 401 KAR 51:017)	G01-G29 Line 2 Operations, exclude G14b
182.4 tons/year VOC All Powertrain Operations	BACT limit (Pursuant to 401 KAR 51:017)	H01-H17
16.1 tons/year PM All Powertrain Operations	BACT limit (Pursuant to 401 KAR 51:017)	H01-H17

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 51:017, Prevention of significant deterioration of air quality	A02, A03, A06, A09, A13, B02, B03, B06, B09, B13, M02, M05, C02, C03, C14, C06, C08, C09, C10, C14, D03A, D11A, D11B, E01R, E02R, E04R, E05R, E07R, E09R, E11R, E12R, E13R, E14R, E15R, E18R, F02, F04, F05, F06, F07, F09, F11, F12, F13, F18, F19, F20, F21, F22, F25, F26, G04, G13, G17, G19, G20, G21, G22, G24, G26, G27, G28, H12(03), H12(06), H12(04), H12(07), H12(05), H12(08), H01, H03, H05, H08
401 KAR 59:010, New Process Operations	A02, A05, A09, A13, B02, B05, B09, B13, M01, M03, J01, J02, C03, C04, C06, C08, C09, C10, C13, C14, C15, C18, D02, D05, E01R-E18R, F01-F26, G01-G29, H1-H17
401 KAR 59:015, New Indirect Heat Exchangers	D03A, D03B, D04A, D04B, D11A, D11B
401 KAR 59:050, New Storage Vessels for Petroleum Liquids	D06, H11
401 KAR 59:185, New solvent metal cleaning equipment	A06, B06, M07, K07, J04, C12, D09, E13R, F13, G19, H05
401 KAR 60:005 Section 2(2)(tt) 40 C.F.R. 60.390 to 60.398 (Subpart MM), Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations, (Refer to Section B Group Requirements).	C09, E02R, E05R, E07R, E09R, E12R, F02, F04, F05, F07, F09, F12, F19, F20, F21, F22, F24
401 KAR 63:002 Section 2(4)(ooo), 40 C.F.R. 63.3080 to 63.3176, Tables 1 through 4, and Appendix A (Subpart IIII), National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks (Refer to Section B Group Requirements)	A02, A03, A04, A06, A07, A10, A14, B02, B03, B04, B06, B07, B10, M01, M02, M05, M06, M07, M09, C06, C09, C10, C12, C16, E02R, E04R, E05R, E07R, E11R, E12R, E13R, F02, F04, F05, F07, F09, F11, F12, F13, F19, F20, F21, F22, F23, F24, F25, F26, G04, G19,

	G21, G22, G26, G27, G28, H02, H05, H06, H10, H14, H16
401 KAR 63:002 Section 2(4)(eeee) 40 C.F.R. 63.6580 to 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,	D07
401 KAR 63:002 Section 2(4) (iiii) 40 C.F.R. 63.7480 to 63.7575, Tables 1 through 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	D03B, D04B, D11B
401 KAR 63:002 Section 2(4)(tttt) 40 C.F.R. 63.9280 to 63.9375, Tables 1 through 7 (Subpart PPPPP), National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands (Existing affected sources do not have to meet Subparts A of 40 CFR part 63 except for initial notification requirements).	H12
401 KAR 63:020, Potentially hazardous matter or toxic substances	D06, G14b
40 CFR 64, Compliance Assurance Monitoring (CAM)	E05R, E07R, F07, F22, G21, G22, H12-03 and H-06

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 51:017, Prevention of significant deterioration of air quality	Line 3

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
401 KAR 59:225, New Miscellaneous Metal Parts and Products Surface Coating Operations	Source-wide

Air Toxic Analysis

The Division for Air Quality (Division) has performed modeling using AERMOD on December 20, 2024 of potentially hazardous matter or toxic substances (Ethylene Glycol) 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. *G14b to be screened or modeled next significant revision or renewal.*

Single Source Determination

Toyota Motor Engineering & Manufacturing North America, Inc. (TEMA), Source ID # 21-209-00072, Agency Interest: 126184 and Toyota Motor Manufacturing, Kentucky, Incorporated (TMMK), Source ID # 21-209-00030, Agency Interest: 7998, are located on contiguous properties, belong to the same industrial grouping, and are under common control. By the definition of major stationary source in 401 KAR 51:001, TEMA and TMMK constitute one major source for PSD purpose. By the definition of major source in 401 KAR 52:001 for Title V program, they constitute one major source for non-hazardous regulated air pollutants and hazardous air pollutants, therefore, both facilities' emissions should be aggregated for the purpose of Title V, and PSD applicability determination.

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
V-04-027	Initial Issuance	56340 / APE20040004	4/16/2004	7/30/2004	Initial Permit	PSD
V-04-027 R1	Significant Revision	APE20040005	2/18/2005	5/10/2005	BACT Limits Corrected EUG21 Exterior Parts Painting added	N/A
V-04-027 R2	Minor Revision	APE20050005	9/10/2005	8/22/2007	Inclusion of 40 CFR 63, Subpart IIII requirements.	N/A
V-04-027 R3	Minor Revision	APE20070001	9/17/2007	9/21/2007	Addition of new engine machining and assembly line in Power Train shop	N/A
V-04-027 R4	Significant Revision	APE20080008	8/15/2008	2/3/2009	Revision of BACT limits and permit conditions for particulate emissions from Bodyweld Shop	N/A
V-10-009	Renewal	APE20100002 APE20090002	4/18/2010	1/14/2011	Renewal/PSD	PSD
V-10-009 R1	Minor Revision	APE20100008	1/27/2011	5/6/2011	Modification to G19 and G21	N/A
V-10-009 R2	Minor Revision	APE20120001	2/2/2012	4/20/2012	Added three boilers and removed one boiler	N/A
V-10-009 R3	Minor Revision	APE20120002	3/9/2012	7/13/2012	Return to service E04 Sealer Oven	N/A
V-10-009 R4	Minor Revision	APE20120004	10/2/2012	1/10/2013	Modification to H01 to H17 in Powertrain facility	N/A
V-10-009 R5	PSD-Significant Revision	APE20130001	7/4/2013	11/26/2013	Expansion – A New Vehicle Assembly Line (Line 3)	PSD
V-10-009 R6	Minor Revision	APE20130003	12/23/2013	3/28/2014	Modification to F05, return to service F04 Sealer Oven,	N/A

					and addition of an Insignificant Activity	
V-10-009 R7	Significant Revision	APE20140001	5/7/2014	10/27/2014	Change the type of VOC concentrators for F22/F21, F21 and G26	N/A
V-10-009 R8	Minor Revision	APE20140003	10/3/2014	1/27/2015	Modification to F05 and F07	N/A
V-10-009 R9	Minor Revision	APE20140004	12/24/2014	3/26/2015	Modification to F09	N/A
V-10-009 R10	Significant Revision	APE20150001	4/10/2015	8/13/2015	Modification to G22 & G19	N/A
V-15-062	Renewal/ PSD	APE20150005 ~APE20150008, APE20150011	9/21/2015	12/21/2015	Renewal Permit; PSD – Vehicle Model Change, G26 BACT re-evaluation	PSD
V-15-062 R1	Significant Revision	APE20150009 APE20150010 APE20160002 APE20160003 APE20160004	9/30/2015	9/13/2016	Paint #1 facility rebuilt; Added Controls to C09 and H16; Replaced G04 and G20; Modified F22	N/A
V-15-062 R2	Minor Revision	APE20160005	4/10/2017	6/23/2017	Modified C09, C10, and F09; Replaced Oxidizer in F21 and F22	N/A
V-15-062 R3	Minor Revision	APE20180004 APE20180005 APE20190001 APE20190002	11/25/2019	3/7/2020	Added filters in F07; Added cleaner in H16; Removed Booth D from G04; Removed scrubber from F09; Added new units in C03, C17, B03, G13, G20 and D07(08); Modified F20, E11, F11, F23; Removed units in H12(08); Modified E05R, E07R, E04R	N/A
V-20-026	Renewal	APE20200001	9/22/2020	5/23/2021	Permit Renewal	N/A
V-20-026 R1	Minor Revision	APE20220001	3/24/2022	7/1/2022	Addition of RT12 RTO to control	N/A

					emissions from G22 and G26 Booths, moving replaced Concentrators and Oxidizers to an alternate operating scenario. Replacement of C08 and C09.	
V-20-026 R2	Minor Revision	APE20220004	11/1/2022	2/20/2023	Addition of Soft Chip to E05R, Replacement at F05, New Tanks H11, Replacements at A09, H01-19 Machining Equipment, ED Bath replacement E02, Weld Mods C06 and C17, Paint 1 Mods E02-11	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

Permit Number: V-20-026 R2

Activities: APE20220004

Received: September 19, 2022

Application Complete Date(s): November 11, 2022

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

Construction/Modification Requested? ☒ Yes ☐ No NSR Applicable? ☐ Yes ☒ No

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

Description of Action:

APE20220003 Minor Revision:

An application was received by the Division on July 18, 2022 to change the material used in the electrodeposition bath in Paint #2 (F02).

Another application was received by the Division and stored under APE20220002 on August 2, 2022. This application requested the following changes:

1. Addition of machining and assembly equipment to Emission Units H01, H03, H04, H08, H09, H17 and H19 to increase production capacity.
2. A modification to increase fuel usage by approximately 10% at the L4 and V6 test cells (H12-03, H12-06, H12-04, H12-07).
3. The addition of two 10,000 gallon oil storage tanks (OT-08). This addition adds 401 KAR 59:050, New storage vessels for petroleum liquids applicability to H11.

APE20220004 Minor Revision:

An application was received by the Division on September 19, 2022. This application requested the following changes:

1. The addition of multiple spray applicators and solvent purging/recovery processes to Paint #1 Reborn E05R-02 and Paint #2 F05-02 (soft chip process additions).
2. The addition of multiple adhesive applicator robots to apply adhesive at C06, and the addition of some MIG welders and removal of some laser welders at C17.
3. Modifications to E05R, F05, E01R E02R, E04R and E11R to support large vehicles.
4. Addition of new spray applicators to E07R-02.
5. Increased production at E07R-05 to accommodate more vehicles.
6. Replacement of equipment at A09.

No changes are being made to existing BACT limits. Changes to PTE calculations are from the addition of the soft chip processes and the two new oil storage tanks. The new soft chip processes have a combined potential to emit of 25.06 tons per year of VOC. The soft chip processes are uncontrolled. Changes made at other emission units, while affecting actual emissions, will still operate with previously established potentials.

F05's previously existing soft chip process no longer exists and had a 25.5 tpy PTE. Because of the removal of this, with rounding error, it would seem like no overall changes to VOC PTE were made with the addition of two soft chip processes and the new tanks.

APE20230001 502(b)10 change:

An application was received by the Division on January 13, 2023 to remove a solvent washer from the L4-1 and L42 head machining line of H16 and subsequently remove the KT02 and KT01 oxidizers controlling this washer. KT02 has been removed, and KT01 will be removed in December 2023.

V-20-026 R2 Emission Summary				
Pollutant	2019 Actual (tpy)	Previous PTE V-20-026 R1 (tpy)	Change (tpy)	Revised PTE V-20-026 R2 (tpy)
CO	62.13	766.1	0	766.1
NO _x	72.63	914.3	0	914.3
PT	134.1	352.9	0	352.9
PM ₁₀	134.1	352.9	0	352.9
PM _{2.5}	66.27	215.3	0	215.3
SO ₂	0.44	6.22	0	6.22
VOC	1402	4914	0	4914
Lead	0.00036	0.0045	0	0.0045
Greenhouse Gases (GHGs)				
Carbon Dioxide	86984	1092013	0	1092013
Methane	1.66	20.89	0	20.89
Nitrous Oxide	1.41	18.89	0	18.89
CO ₂ Equivalent (CO ₂ e)	87446	1098164	0	1098164
Hazardous Air Pollutants (HAPs)				
1,1,1-Trichloroethane	0	3.38	0	3.38
Benzene	0.67	1.20	0	1.20
Bis (2-Ethylhexyl) Phthalate	6.60	10.43	0	10.43
Cumene	18.88	25.12	0	25.12
Ethyl Benzene	233.7	296.8	0	296.8
Ethylene Glycol	2.94	158.8	0	158.8
Formaldehyde	16.11	63.62	0	63.62
Hexane; N-Hexane	2.08	17.32	0	17.32
Manganese	2.32	2.46	0	2.46
Methanol	197.5	270.5	0	270.5
Methyl Isobutyl Ketone	209.5	354.6	0	354.6
Methylene Diphenyl Diisocyanate	0.19	6.22	0	6.22
Naphthalene	87.43	112.6	0	112.6
Phthalic Anhydride	2.91	19.00	0	19.00
Propylene Oxide	1.26	2.94	0	2.94
Styrene	44.52	79.04	0	79.04
Toluene	429.7	823.8	0	823.8
Triethyl Amine	12.79	15.88	0	15.88
Xylenes	868.5	1097	0	1097
Combined HAPs:	2140	3361	0	3361

Permit Number: V-20-026 R1

Activities: APE20220001

Received: January 31, 2022

Application Complete Date(s): March 24, 2022

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

Construction/Modification Requested? ☒ Yes ☐ No NSR Applicable? ☐ Yes ☒ No

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

Description of Action:

APE20210001 502(b)10 change:

An application was received by the Division on August 16, 2021 to increase the amount of rocker wax used at EU11R by 21% and increase the amount of rocker wax used EUF11 and F23 by 24%.

APE20210002 Minor Revision:

An application was received by the Division on November 1st 2021 to do the following items:

1. Relocate the Axle Assembly line from Building 800 to Building 200. EUH15 is affected because some associated lubrication activities are moving with the axle line. The lubrication activities that have moved are designated as EUH15b.
2. Eight 0.3 MMBtu/hr door heaters were added to EUD08, as insignificant activities
3. Correct Paint 1 Rebuilt's location to Building #250 in the permit.
4. Add a new regenerative thermal oxidizer (RT12) to control VOC emissions from G22 and G26. RT12 will replace the existing fluidized bed concentrators and oxidizers, but the concentrators and oxidizers are being kept as a backup control system. The control efficiency standard of the newly added RT12 is 81%, to be equivalent to the previous concentrator/oxidizer combined capture and destruction efficiency.
5. Add ventilation for an existing offline parts washer.

APE20220001 Minor Revision:

An application was received by the Division on January 31st 2022 for the modification to the facility's Small Parts Electrodeposition System, C08/C09, and the addition of two 0.3 MMBtu/hr dock heaters and one 0.2 MMBtu/hr room heater. The modification to C08/C09 involves the construction of a new system in Building #400 to replace the old process in Building #100/100A. The new system's associated combustion units will be a 1 to 1 replacement in terms of capacity. An increase in actual coating usage is expected when the new process is built. The facility requested a 90 day period to operate both processes simultaneously. In addition, it was requested by the facility to change CAM plan 1-hr block averages to 3-hr block averages to be consistent with Section B requirements during this revision outside of the initial application.

Small Parts Electrodeposition (C08/C09)	Tons VOC/year
Actual Emissions (2016-2017)	3.82
Emissions Increase	1.35
Projected Actual Emissions	5.17
Permit Limit (BACT)	12.37
Significant Emission Limit	40

APE20220002 502(b)10 change:

An application was received by the Division on March 8, 2022 for the addition of J05 Team Member Training Activities to the list of insignificant activities. J05 has injection molding, welding, and machining emission sources.

V-20-026 R1 Emission Summary				
Pollutant	2019 Actual (tpy)	Previous PTE V-20-026 (tpy)	Change (tpy)	Revised PTE V-20-026 R1 (tpy)
CO	62.13	748.2	17.9	766.1
NO _x	72.63	893.0	21.3	914.3
PT	134.1	352.8	0.1	352.9
PM ₁₀	134.1	352.8	0.1	352.9
PM _{2.5}	66.27	215.1	0.2	215.3
SO ₂	0.44	6.09	0.13	6.22
VOC	1402	4946	-32	4914
Lead	0.00036	0.0044	0.0001	0.0045
Greenhouse Gases (GHGs)				
Carbon Dioxide	86984	1066418	25595	1092013
Methane	1.66	20.40	0.49	20.89
Nitrous Oxide	1.41	18.76	0.13	18.89
CO ₂ Equivalent (CO ₂ e)	87446	1072518	25646	1098164
Hazardous Air Pollutants (HAPs)				
1,1,1-Trichloroethane	0	3.38	0	3.38
Benzene	0.67	1.20	0	1.20
Bis (2-Ethylhexyl) Phthalate	6.60	10.43	0	10.43
Cumene	18.88	25.12	0	25.12
Ethyl Benzene	233.7	296.8	0	296.8
Ethylene Glycol	2.94	158.8	0	158.8
Formaldehyde	16.11	63.62	0	63.62
Hexane; N-Hexane	2.08	17.32	0	17.32
Manganese	2.32	2.46	0	2.46
Methanol	197.5	270.5	0	270.5
Methyl Isobutyl Ketone	209.5	354.6	0	354.6
Methylene Diphenyl Diisocyanate	0.19	6.22	0	6.22
Naphthalene	87.43	112.6	0	112.6
Phthalic Anhydride	2.91	19.00	0	19.00
Propylene Oxide	1.26	2.94	0	2.94
Styrene	44.52	79.04	0	79.04
Toluene	429.7	823.8	0	823.8
Triethyl Amine	12.79	15.88	0	15.88
Xylenes	868.5	1097	0	1097
Combined HAPs:	2140	3361	0	3361

Permit Number: V-20-026

Activities: APE20200001

Received: July 29, 2020

Application Complete Date(s): September 22, 2020

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

Construction/Modification Requested? ☐ Yes ☒ No NSR Applicable? ☐ Yes ☒ No

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

Description of Action:

Toyota applied to the Division for the renewal of their air quality permit. In addition to the permit renewal, the facility requested the removal of E series Paint 1 activities from their permit leaving the Paint 1 Rebuilt only. Toyota had also removed their catalytic oxidizers. D03A, D04A, and D11A were requested to be removed from 40 CFR 63 Subpart DDDDD applicability because these sources only supply direct heat, or the boilers were exempt due to being less than 120 gallons and 1.6 MMBtu/hr and used for comfort heat or space heat, food preparation for onsite consumption, or autoclaves.

During the renewal, the permit underwent some reorganization. The CAM plan was moved to Section E. 401 KAR 59:185, 40 CFR 60 Subpart MM, and 40 CFR 63 Subpart IIII regulations were moved to Section B as group requirements from Section D. 40 CFR 60 Subpart Kb and 40 CFR 63 Subpart EEEE were found to have been applied inappropriately to emission unit D06 and subsequently removed.

V-20-026 Emission Summary				
Pollutant	2019 Actual (tpy)	Previous PTE V-15-062 R3 (tpy)	Change (tpy)	Revised PTE V-20-026 (tpy)
CO	62.13	748.2	0	748.2
NO _x	72.63	893.0	0	893.0
PT	134.1	382.0	-29.2	352.8
PM ₁₀	134.1	470.5	-117.7	352.8
PM _{2.5}	66.27	268.1	-53	215.1
SO ₂	0.44	6.09	0	6.09
VOC	1402	5949	-1003	4946
Lead	0.00036	0.0044	0	0.0044
Greenhouse Gases (GHGs)				
Carbon Dioxide	86984	1066418	0	1066418
Methane	1.66	20.40	0	20.40
Nitrous Oxide	1.41	18.76	0	18.76
CO ₂ Equivalent (CO ₂ e)	87446	1072518	0	1072518
Hazardous Air Pollutants (HAPs)				
1,1,1-Trichloroethane	0	3.38	0	3.38
Benzene	0.67	1.20	0	1.20
Bis (2-Ethylhexyl) Phthalate	6.60	10.43	0	10.43
Cumene	18.88	49.27	-24.15	25.12

Ethyl Benzene	233.7	440.9	-144.1	296.8
Ethylene Glycol	2.94	158.8	0	158.8
Formaldehyde	16.11	83.31	-19.69	63.62
Hexane; N-Hexane	2.08	17.32	0	17.32
Manganese	2.32	2.46	0	2.46
Methanol	197.5	509.5	-239	270.5
Methyl Isobutyl Ketone	209.5	677.7	-323.1	354.6
Methylene Diphenyl Diisocyanate	0.19	6.22	0	6.22
Naphthalene	87.43	132.7	-20.1	112.6
Phthalic Anhydride	2.91	19.00	0	19.00
Propylene Oxide	1.26	2.94	0	2.94
Styrene	44.52	79.04	0	79.04
Toluene	429.7	1107	-283.2	823.8
Triethyl Amine	12.79	15.88	0	15.88
Xylenes	868.5	1531	-434	1097
Combined HAPs:	2140	4848	-1487	3361

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