

## **STATEMENT OF BASIS**

Mazda Toyota Manufacturing U.S.A., Inc. (MTMUS) – Automobile Manufacturing Facility  
(JV Facility)

MTMUS Campus, Huntsville, Limestone County, Alabama

Facility Permit No. 7-08-P391-Z001

Initial MSOP Issuance

### **DESCRIPTION OF PERMITTING ACTION**

In September 2022, the City of Huntsville Department of Natural Resources and Environmental Management (DNREM) received an application for initial issuance of a Title V Major Source Operating Permit (MSOP) for the Mazda Toyota Manufacturing U.S.A., Inc. (MTMUS) automobile manufacturing facility (“JV Facility”) located at 9000 Greenbrier Parkway in Huntsville, Limestone County, AL 35756. The JV Facility conducts the main automobile manufacturing/assembly operations on the Mazda Toyota Manufacturing U.S.A., Inc., (MTMUS) automotive manufacturing campus (“MTMUS Campus” or “Campus”). The Campus is made up of the JV Facility and six (6) other permitted entities, or On-Site Partners (OSPs), and is located approximately four (4) miles west of the Huntsville, Alabama, airport. The Campus is generally bounded on the east by Powell Road and fields (near the intersection of the railroad tracks and Old US Hwy 20), the north by fields (near the intersection of Powell Road), the west by fields (near the intersection of Limestone Creek), and on the south by Old US Highway 20.

### **BACKGROUND**

MTMUS constructed, owns, and operates the main automobile manufacturing and assembly plant (“JV Facility”) on the MTMUS Campus. The JV Facility operates under SIC 3711 (Motor Vehicles and Passenger Car Bodies) and NAICS 336112 (Light Truck and Utility Vehicle Maintenance). The JV Facility emits pollutants associated with stamping and welding operations; application of coatings and adhesives; use of solvents; fueling operations; natural gas combustion in emission control equipment, oven burners and HVAC units; and diesel fuel combustion in emergency generator and fire pump engines. The JV Facility produces up to 250,000 vehicles per year on each of the two (2) lines – Toyota Line and Mazda Line – for a total of up to 500,000 vehicles per year. Although maximum hourly vehicle production could reach seventy (70) vehicles per line, potential-to-emit (PTE) estimates and associated limitations are based on the aforementioned annual production capacities.

All activities conducted on the MTMUS Campus support the manufacturing of automobiles only on the MTMUS Campus and are located on property under the common control of MTMUS. Therefore, DNREM considers the entire MTMUS Campus to be a single source of air pollution for purposes of Prevention of Significant Deterioration (PSD) of Air Quality applicability determinations and any required Best Available Control Technology (BACT) analyses or Air Quality Impact Analyses (AQIAs) performed.

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### **PERMITTING HISTORY**

The original permitting effort for the entire MTMUS Campus in 2018 resulted in seven (7) PSD permit being issued by DNREM to MTMUS for the JV Facility in December of 2018. These permits covered stamping, welding, coating, assembly, organic liquid storage, natural gas combustion, and emergency engine operations at the facility.

As previously stated, for regulatory applicability purposes, the main manufacturing/assembly plant and all on-site support facilities are under the common control of MTMUS and are considered one major stationary emission source for the purposes of PSD applicability and any required BACT analyses or AQIAs performed. In the initial permitting process, the MTMUS Campus was deemed a major source under PSD since the PTE for VOCs was greater than 250 tons per year (TPY). Particulate matter (PM), carbon monoxide (CO), and nitrogen oxides (NO<sub>x</sub>) potential emissions were also estimated to exceed the 10 TPY (for PM<sub>2.5</sub>), 100 TPY, and 40 TPY de minimis levels, respectively. BACT was required to be installed and/or implemented on all significant sources of VOC, PM, CO, NO<sub>x</sub>, and greenhouse gases (GHGs) in accordance with the City of Huntsville Air Pollution Control Rules and Regulations (COHRAR) Section 3.5.4. Therefore, all significant sources of these pollutants underwent BACT analyses, and limitations and good work practices were incorporated into the permits issued to the various facilities on the MTMUS Campus as applicable.

In accordance with COHRAR Sections 3.5.5 through 3.5.9., an AQIA was performed and submitted with the initial application for construction of the Campus, and the impact of the Campus potential emissions on air quality, visibility, soils, and vegetation was assessed. The predicted ambient impacts of the source were projected to be in the immediate area of the source and were relatively minor, so no discernible impacts were expected. As the Campus was to be located less than 100 km (at 58.6 km) from the nearest Class I area (Sipsey Wilderness in northwest Alabama), the facility was also evaluated to determine if it would adversely affect visibility in this area in accordance with COH APC RAR Section 3.5.10. Reports from the Federal Land Manager (FLM) indicated there was no need for further evaluation.

*MTMUS Campus Revision Request #1 (MTMUS-RR-1, November 2019):*

- HVAC burners at the JV Facility underwent reevaluation of NO<sub>x</sub> BACT limitations.
- The number of HVAC units and respective burner ratings were updated for the JV Facility.

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### *MTMUS Campus Revision Request #2 (MTMUS-RR-2, July 2020):*

- A change was made to a sealer material to be used and an increase to the usage rate of a sealer material was made.
- The facility proposed a change to the VOC control technology on the topcoat paint system (this change was ultimately withdrawn by MTMUS after the proposed change and associated permit terms went through public and EPA comment with no comments received).
- A BACT limit was changed for offline repair.
- Addition of a replacement parts oven and natural gas-fired emergency generators.
- Changed heat inputs and NO<sub>x</sub> rates for natural gas process equipment.
- Reassigned HVAC equipment associated with a Cross Dock / Warehouse to a new OSP.
- Decreased the vehicle fluid storage capacity.

### *JV Facility Revision Request #1 (JV-RR-1, August 2021):*

- Reduced the number of thermal oxidizers originally permitted.
- Updated NO<sub>x</sub> BACT limitations associated with the thermal oxidizers based on vendor guarantees.
- A permitted natural gas-fired emergency generator was replaced with a diesel-fueled emergency generator.

### *As-Built Permitting Effort and JV Facility Revision Request #2 (MTMUS-CC-AB, JV-RR-2 - August 2024):*

- Increase in plant-wide (JV Facility) VOC emission limitation and source-specific limitations (rust preventative oil VOC content limit increase, increase in emission limitation associated with a source in the paint shop).
- Addition of stripping, rust preventative, and degreasing material usage in the jig cleaning operations (previously only permitted as natural gas-heated systems).
- Removal of certain sources due to not being installed (e.g., various sources in the paint shop, two (2) gasoline storage tanks, one (1) windshield washer fluid tank), combining of certain sources shared between the lines as opposed to each line having their own source (e.g., stamping operations), and reassignment of certain sources (e.g., hinge wax) to a different source ID and area of the plant.
- Increase in NO<sub>x</sub> limitation for the Ecoat system thermal oxidizer based on initial compliance testing results.

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- Change in control system originally proposed and approved for the topcoat paint line and oven under *MTMUS-RR-2* but later withdrawn by the permittee (carbon concentrator / thermal oxidizer system replaced a thermal oxidizer only system).
- Update in permit language to represent the permittee's election to show compliance with NESHAP 4I in lieu of 4M.
- Removal of limitation on number of emergency engines that could be operated for maintenance/testing in a day and removal of language rescinded from NESHAP ZZZZ.
- While DNREM was compiling information from various other facilities on the MTMUS Campus to complete the Campus-wide as-built permitting effort (MTMUS-CC-AB), a review was conducted of the JV Facility HVAC equipment numbers and specifications. This was done to ensure the as-built HVAC burner ratings and number of units were accurately being accounted for in the PTE estimates.
- Additionally, DNREM initiated review of the PSD permit associated with the JV Facility's Miscellaneous Natural Gas Sources (including HVAC) (7-08-P391-Z005) and proposed amendment to / removal of provisions as appropriate to the JV Facility as constructed. This consisted of removing language related to applicability of PSD-BACT limitations for residential-sized HVAC units and adding requirements of National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Hazardous Air Pollutant (HAP) Emissions from Industrial, Commercial, and Institutional Boilers and Process Heaters (Subpart DDDDD), for specific natural gas-fired sources.

### **FEDERAL APPLICABLE REGULATIONS**

*Title V:* All activities conducted on the MTMUS Campus support the manufacturing of automobiles only on the MTMUS Campus and are located on property under the common control of MTMUS. The MTMUS Campus as a whole is considered to be a single source of air pollution for the purposes of Title V. However, the JV Facility independently does have PTEs that would classify the facility as major for Title V.

*Prevention of Significant Deterioration (PSD) of Air Quality:* All activities conducted on the MTMUS Campus support the manufacturing of automobiles only on the MTMUS Campus and are located on property under the common control of MTMUS. The MTMUS Campus as a whole is considered to be a single source of air pollution for purposes of PSD of Air Quality applicability determinations and any required BACT analyses or AQIAs performed. However, the JV Facility independently does have PTEs that would classify the facility as major for PSD.

*New Source Performance Standards (NSPS):*

The facility is subject to:

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- Subpart A for General Provisions;
- Subpart Kb for Volatile Organic Liquid Storage Vessels;
- Subpart MM for Automobile and Light-Duty Truck Surface Coating Operations;
- Subpart IIII for Stationary Compression Ignition (CI) Internal Combustion Engines; and
- Subpart JJJJ for Stationary Spark Ignition (SI) Internal Combustion Engines.

NOTE: The JV Facility would be subject also to Subpart MMMM for Surface Coating of Miscellaneous Metal Parts and Products but has elected (and permitted to do so in the facility's current PSD Permits) to demonstrate compliance with Subpart IIII instead, as allowed for in the Subpart MMMM provisions.

### National Emissions Standards for Hazardous Air Pollutants (NESHAP):

The facility is subject to:

- Subpart EEEE for Organic Liquids Distribution (Non-Gasoline);
- Subpart IIII for Surface Coating of Automobiles and Light-Duty Trucks;
- Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines; and
- Subpart DDDDD for Industrial, Commercial, and Institutional Boilers and Process Heaters.

## **DNREM APPLICABLE REGULATIONS**

Visible Emissions (COH APC RAR, Chapter 6.1): The natural gas combustion sources and emergency fire pump engine are subject to visible emission (VE) limitations.

Particulate Emissions (COH APC RAR, Chapter 6.4): The combustion sources are subject to the fuel burning equipment particulate matter (PM) emission limitations in Section 6.3.1.

## **WORK PRACTICES**

Emissions from the coating booths and associated ovens are required to be directed to thermal oxidizers (for the clearcoat booth and associated oven, the associated thermal oxidizer is preceded by a carbon concentrator), and the thermal oxidizers required to be operated at or above a temperature established from emissions testing to maintain the permitted destruction efficiency determined by the testing. The carbon concentrator associated with the clearcoat system thermal

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oxidizer is also required to operate at parameters established by testing to maintain the permitted destruction efficiency determined by the testing.

The JV Facility is required to implement a work practice plan for the use of HAP-containing materials to minimize organic HAP emissions and is required to utilize good work practices to minimize VOC emissions from VOC-containing materials.

The JV Facility is required to inspect/monitor dry filtration systems for proper operation on a regular basis and implement corrective action upon finding an operating parameter to be outside the normal range.

The JV Facility is limited to the use of natural gas as a fuel in the combustion equipment (except for the diesel-fueled emergency engines) and is required to utilize good work practices to reasonably minimize emissions of NO<sub>x</sub> and other pollutants from the natural gas combustion equipment. Periodic maintenance of each burner is required as recommended by the manufacturer, at a minimum.

The JV Facility is limited to the use of low-sulfur diesel fuel (15 ppm) in the diesel-fueled emergency engines and must operate and maintain the engine in accordance with the manufacturer's recommendations and limit the engine's start-up time and time spent in idle. The Facility is also required to implement a minimum maintenance schedule for oil changes and air cleaner, hose, and belt inspections. Good work practices to minimize diesel usage and handling are also required.

The JV Facility is in compliance with these requirements.

## **MONITORING REQUIREMENTS**

The JV Facility is required to conduct compliance testing on the thermal oxidizers and carbon concentrator serving the coating lines and associated ovens at least every five (5) years to demonstrate compliance with the destruction efficiency limitations and is required to monitor the combustion temperature of the thermal oxidizer chambers.

The JV Facility is required to track all natural gas and diesel fuel usage. The emergency engines are required to be equipped with a non-resettable hour meter.

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The JV Facility is required to observe each natural gas burner during operation at least once monthly for greater than normal visible emissions as determined from previous observations. Corrective actions are required upon observation of any visible emissions that are greater than normal.

The JV Facility is in compliance with these requirements to date.

## **REPORTING**

As a source applicable to Title V, the JV Facility has been required since starting operations to prepare and submit annual compliance certifications to both DNREM and EPA Region 4 indicating compliance status with all permit requirements, as well as semi-annual monitoring reports to DNREM detailing actual emissions, material and fuel usage.

Under the PSD permits issued to the JV Facility, it was required that the facility prepare and submit quarterly reports to DNREM in addition to fulfilling the Title V semi-annual monitoring report and annual compliance certification requirements. It is proposed in the Draft MSOP that the quarterly reporting requirement is dropped. The semi-annual monitoring reports and annual compliance certifications detail actual emissions, VOC-containing material usage, fuel usage, and compliance status with all permit requirements.

Per NESHAP Subpart IIII, the JV Facility is required to submit performance test reports and semi-annual monitoring reports electronically to EPA via the Compliance and Emissions Data Reporting Interface (CEDRI).

The JV Facility is in compliance with the reporting requirements to date.

## **RECORDKEEPING**

Under the proposed MSOP, the JV Facility will be required to keep all records required by the MSOP for no less than five (5) years.

The JV Facility is required to keep records of emissions testing; operating parameters for thermal oxidizers and carbon concentrator / thermal oxidizer system, such as combustion chamber operating temperature readings; control system bypasses, malfunctions, and associated corrective actions; VOC-containing material usage; fuel usage; emission calculations; a logbook of dry filter maintenance checks and monthly visible emissions observations; sulfur content of diesel fuel;

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emergency engine maintenance and hours of operation; and compliance with applicable emissions limitations.

The JV Facility is compliant with these requirements to date.

### **PUBLIC NOTICE**

The issuance of the JV Facility's initial MSOP requires a thirty-(30)-day public comment period and a forty-five-(45)-day EPA review period (tandem comment period and EPA review period requested).

### **RECOMMENDATION**

This Statement of Basis indicates that the JV Facility will meet the requirements of all applicable Federal regulations and COHRAR, as described. Therefore, I recommend that the Title V MSOP be issued to the JV Facility pending the full receipt of fees associated with this permitting effort and resolution of any comments received during the public comment and EPA review periods described above.



Darlene Elliott, Director

Department of Natural Resources and Environmental Management  
City of Huntsville