

NARRATIVE

TO: Jeng-Hon Su
FROM: Ginger Payment
DATE: June 7, 2023

Facility Name: **Hitachi Astemo Americas, Inc.**
AIRS No.: 297-00038
Location: Monroe, GA (Walton County)
Application #: 28827
Date of Application: April 18, 2023

Background Information

Hitachi Astemo Americas, Inc. (hereinafter “facility”) is an existing facility for manufacturing automobile parts which is located at 1000 Unisia Drive, Monroe (Walton County). The facility is a true minor source with regard to Title V regulations and was issued Permit No. 3714-297-0038-B-02-0 on February 2, 2017. Permit Amendment No. 3714-297-0038-B-02-1 was issued on September 14, 2021 for a name change and construction and operation of an exempted rework booth (PB3).

The facility manufactures parts including propeller shafts, timing control gears, cam timers, and steering mechanisms for the automotive industry. Other activities include numerous automated and robotic manufacturing processes; two spray paint booths with a water curtain and a small emergency generator. The fuel burning equipment burns natural gas.

The facility is comprised of 3 Buildings

Building 1: Office space, break room, assembly area for VTC Lines. No process emissions.

Building 2: Office space, break room, assembly area for propeller shaft lines, and two automated paint booths. The paint booths have a 0.8 MMBTU/hr cure oven.

Building 3: Office space, break room, assembly area for VDP-4, BEPS, PEPS, and P/S Gear lines. No process emissions.

Purpose of Application

Application No. 28827 was submitted on April 19, 2023 to request the construction and operation of a new paint booth PB1 to replace a previous booth.

Paint Booth PB1, that was located in Building 2, was lost due to a fire and will be replaced with a new paint booth. Though the previous paint booth had a water curtain to control emissions, the proposed paint booth will have particulate emissions controlled by a dry filter. The other existing paint booth (PB2) will continue to be controlled by the water curtain.

The facility also requested the use of a new paint that will be used to coat the parts.

A public advisory (PA0423-3) was issued on April 19, 2023 and expired on May 19, 2023.

Because several conditions needed to be modified, a new permit was prepared for this application.

Updated Equipment List

Emission Units			Associated Control Devices	
Source Code	Description	Installation Date	Source Code	Description
PB1*	Paint Booth	2023*	CD2*	Dry Filter
PB2	Paint Booth	1997	WC	Water Curtain
PB3	Re-work Paint Booth	2021	CD1	Dry Filter
CU	Paint Booth and Touch Ups	2016	---	---
GEN1	Backup Generator	2017	---	---

*proposed within current application

Emissions Summary

The emissions from the paint booths are based on the projected maximum material usage, the material density and the VOC/HAP content of the material used. The emissions from the paint booth oven are based on the heat capacity of the oven and AP-42 emission factors for natural gas combustion. The emissions shown do not include any control efficiency, DRE, or grain loading testing of the dry filters and are the uncontrolled emissions.

Changes in emissions are contributed to the discontinued use of the water curtain for the proposed paint booth and the change in paint formulations.

Facility-Wide Emissions (in tons per year)

Pollutant	Potential Emissions		
	Before Mod.	After Mod.	Emissions Change
PM/PM ₁₀ /PM _{2.5}	1.005	50.92	49.915
NO _x	0.34	0.34	--
SO ₂	2.12E-3	2.12E-3	--
CO	0.29	0.29	--
VOC	91.376	54.49	(36.89)

Pollutant	Potential Emissions		
	Before Mod.	After Mod.	Emissions Change
Max. Individual HAP	1.732	9.57	7.84
Total HAP	2.263	19.84	17.58
Total GHG (if applicable)	420	409	(11)

Regulatory Applicability

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

The backup generator will continue to be subject to 40 CFR 60 Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* and 40 CFR 63 Subpart ZZZZ - *NESAHP for Stationary Reciprocating Internal Combustion Engines*. The backup generator complies with the requirements for these rules. The Division does not include the backup generator in the permit because it is exempt from permitting.

The facility is not subject to 40 CFR 63 Subpart XXXXXX - *NESHAP: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories* because the SIC code for the facility is not one of the targeted SIC codes for applicability to this rule. The facility is also not subject to 40 CFR 63 Subpart HHHHHH - *NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources* because the facility does not use any of the targeted compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd) and they do not any paint stripping using methylene chloride (MeCl).

Permit Conditions

- Condition 2.1 subjects the facility to Georgia Rule (b).
- Condition 2.2 subjects the facility to Georgia Rule (e).
- Condition 2.3 limits the fuel used at the facility to natural gas for compliance with Georgia Rule (g).
- Condition 3.1 subjects the facility to Georgia Rule (n).
- Condition 4.1 requires records of routine maintenance in a form suitable for inspection or submittal to the Division on all routine maintenance performed on all air pollution control equipment.
- Condition 4.2 requires Paint Booth PB1 to be controlled by the associated air filter and to change the filter.
- Condition 4.3 requires Paint Booth PB2 to be controlled by the associated water curtain and to maintain the water curtain.
- Condition 4.4 requires the facility to properly store all used cleaning products.
- Condition 5.1 requires the facility to monitor the pressure drop across the air filter and the water discharge pressure for the water curtain.
- Condition 7.1 requires the facility to maintain usage records of all materials containing VOC.
- Condition 7.2 provides guidance for VOC emission calculations.
- Condition 7.3 requires the facility to calculate monthly VOC emissions from the entire facility. The condition ensures that the VOC emissions are being monitored.

- Condition 7.4 requires the facility to use the monthly VOC emissions to determine the 12-month rolling total VOC emissions. This condition ensures that the VOC emissions remain below major source thresholds.
- Condition 7.5 requires the facility to maintain usage records of all materials containing HAP emissions.
- Condition 7.6 provides guidance for HAP emission calculations.
- Condition 7.7 requires the facility to calculate monthly individual and combined HAP emissions from the entire facility. The condition ensures that the HAP emissions are being monitored.
- Condition 7.8 requires the facility to use the monthly HAP emissions to determine the 12-month rolling total HAP emissions for individual HAP emissions and combined HAP emissions. This condition ensures that the HAP emissions remain below major source thresholds.
- Condition 7.9 requires a log of the pressure drop for the air filter.
- Condition 7.10 requires a log of the water discharge pressure for the water curtain.
- Condition 8.2 revokes the previous permit.

Toxic Impact Assessment

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

Pollutant	CAS	Emission Rate (lb/yr)	MER (lb/yr)	Modeling Required?
Ethyl Benzene	100414	18,400	243,330	No
Xylene	1330207	19,140	24,333	No
Cumene	98828	220	97,332	No
Toluene	108883	24	1,216,650	No
Methanol	67561	1,880	30,126.73	No
Formaldehyde	50000	0.7	267.0	No

Summary & Recommendations

I recommend issuance of Permit No. 3714-297-0038-B-03-0 to Hitachi Astemo Americas, Inc. for the operation of an automobile parts manufacturing facility and for the construction and operation of a new paint booth PB1 to replace a previous booth and change of paint. A public advisory was issued for this application and expired May 19, 2023 without any comments. The platform was reviewed for accuracy. The Northeast District Office will continue to be responsible for compliance of the facility.