GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Air Protection Branch
4244 International Parkway
Suite 120
Atlanta, Georgia 30354
404-363-7000

NARRATIVE

TO: Jeng-Hon Su

FROM: Susan Jenkins

DATE: February 2, 2023

Facility Name:	**ADVICS Manufacturing Georgia, L.L.C.**
AIRS No.:	285-00070
Location:	LaGrange, GA (Troup County)
Application #:	28622
Date of Application:	October 31, 2022 (Updated: December 5, 2022 and January 26, 2023)

Background Information

ADVICS Manufacturing Georgia, L.L.C. (hereinafter, the "facility") in LaGrange manufacturers non-asbestos organic brake pads for the automotive industry. The facility operates under Permit No. 3714-285-0070-S-05-0 issued December 2, 2016, and "No Permit Required" issued August 3, 2021.

Purpose of Application

The facility submitted a SIP Application assigned number 28622 (dated October 31, 2022) requesting the following:

- Authorization for construction and operation of an additional process line (Combination Line #8) which will consist of 6 preformers/presses (PRC8), 1 powder paint booth (PPC8), 1 slot grinding machine (SGC8), and 1 electrically heated curing oven (COC8). Existing dust collector DC2 will control particulate emissions (PM, PM_{10}, and $PM_{2.5}$) from this proposed process line. Existing fume fan (2AC) will serve as atmospheric ventilation point for VOC emissions from applicable process units on proposed Combination Line #8.
- Equipment and process units approved in "No Permit Required" Application # 28026 (NPR letter issued 8/3/2021). Namely, "Finishing Line (Small Volume)" as specified in the equipment list.

Updated Equipment List

The facility equipment list has been updated and approved by the facility. Equipment being added per Application # 28622 is listed in **bold** font.

Emissions Units				Control Device	
Source Code	**Serves the Following Downstream Combination Line(s)**	**Description**	**# of Units**	**APCD ID No.**	**APCD Description**
Mixers					
1MX	CL 1-8 and Presses 2-4 and 11-15	600 Liter Mixer and Weigh Booth #1	1	DC1	Dust Collector

Emissions Units				Control Device	
Source Code	**Serves the Following Downstream Combination Line(s)**	**Description**	**# of Units**	**APCD ID No.**	**APCD Description**
MX3	CL 1-8 and Presses 2-4 and 11-15	600-Liter Mixer and Weigh Booth #3	1	DC2	Dust Collector
MX4	**CL 1-8**	**300-Liter Mixer and Weigh Booth #4**	**1**	DC2	Dust Collector
MX5	**CL 1-8**	**300-Liter Mixer and Weigh Booth #5**	**1**	DC1	Dust Collector
MX6	**CL 1-8**	**300-Liter Mixer and Weigh Booth #6**	**1**	DC1	Dust Collector
Plate Preparation Process Units					
1AC	CL 1-8 and Presses 2-4 and 11-15	Adhesive Coating #3	1	FFC6	Fume Fan (Not a Control Device)
1D	CL 1-8 and Presses 2-4 and 11-15	Electrically Heated Plate Dryer	1	FFC6	Fume Fan (Not a Control Device)
2D	CL 1-8 and Presses 2-4 and 11-15	Electrically Heated Plate Dryer	1	1AC	Fume Fan (Not a Control Device)
2AC	CL 1-8 and Presses 2-4 and 11-15	Adhesive Coating #4	1	1AC	Fume Fan (Not a Control Device)
Molding Presses and Preforms					
1PR	Press 2, 3, 4, 11, 12, 13, 14, 15	Electrically Heated Hydraulic Presses	8	1AC	Fume Fan (Not a Control Device)
1PR	Press 11, 12, 14	Electrically Heated Hydraulic Presses	3	DC1	Dust Collector
1PR	Press 15	Electrically Heated Hydraulic Presses	1	DC2	Dust Collector
1PF	Preform 1, 2, 3, 4, 11, 12, 13	Preformers	7	DC1	Dust Collector
1PF	Preform 14, 15, 16	Preformers	3	DC2	Dust Collector
Finishing Line (Small Volume)					
PPCF	Finishing Line (Small Volume)	Powder Paint Booth	1	DC1	Dust Collector
COCF	Finishing Line (Small Volume)	Electrically Heated Curing Oven	1	1AC	Fume Fan (Not a Control Device)
COF	Finishing Line (Small Volume)	Cooling Oven	1	N/A	N/A
SGF1	Finishing Line (Small Volume)	Slot Grinding Machine	1	DC1	Dust Collector
1PB	Finishing Line (Small Volume)	Electrically Heated Curing Oven	2	1AC	Fume Fan (Not a Control Device)
1SB1	Finishing Line (Small Volume)	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr)	2	2AC	Fume Fan (Not a Control Device)
Combination Line #1					
1PF/1PR	1	Preformers & Electrically Heated Hydraulic Presses	5	DCC5	Dust Collector
1C	1	Electrically Heated Curing Oven	1	2AC	Fume Fan (Not a Control Device)
1PP1	1	Powder Paint Booth	1	DCC5	Dust Collector
1SG1	1	Slot Grinding Machine	1	DCC5	Dust Collector
1SB1	1	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	2AC	Fume Fan (Not a Control Device)
Combination Line #2					
PRC2	2	Preformers & Electrically Heated Hydraulic Presses	5	DCC5	Dust Collector

Emissions Units				Control Device	
Source Code	**Serves the Following Downstream Combination Line(s)**	**Description**	**# of Units**	**APCD ID No.**	**APCD Description**
COC2	2	Electrically Heated Curing Oven	1	2AC	Fume Fan (Not a Control Device)
PPC2	2	Powder Paint Booth	1	DCC5	Dust Collector
SGC2	2	Slot Grinding Machine	1	DCC5	Dust Collector
SBC2	2	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	2AC	Fume Fan (Not a Control Device)
Combination Line #3					
PRC3	3	Preformers & Electrically Heated Hydraulic Presses	5	DCC3	Dust Collector
COC3	3	Electrically Heated Curing Oven	1	FFC3	Fume Fan (Not a Control Device)
PPC3	3	Powder Paint Booth	1	DCC3	Dust Collector
SGC3	3	Slot Grinding Machine	1	DCC3	Dust Collector
SBC3	3	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	2AC	Fume Fan (Not a Control Device)
Combination Line #4					
PRC4	4	Preformers & Electrically Heated Hydraulic Presses	5	DCC3	Dust Collector
COC4	4	Electrically Heated Curing Oven	1	FFC3	Fume Fan (Not a Control Device)
PPC4	4	Powder Paint Booth	1	DCC3	Dust Collector
SGC4	4	Slot Grinding Machine	1	DCC3	Dust Collector
SBC4	4	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	FFC3	Fume Fan (Not a Control Device)
Combination Line #5					
PRC5	5	Preformers & Electrically Heated Hydraulic Presses	5	DCC6	Dust Collector
COC5	5	Electrically Heated Curing Oven	1	FFC3	Fume Fan (Not a Control Device)
PPC5	5	Powder Paint Booth	1	DCC6	Dust Collector
SGC5	5	Slot Grinding Machine	1	DCC6	Dust Collector
SBC5	5	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	FFC3	Fume Fan (Not a Control Device)
Combination Line #6					
PRC6	6	Preformers & Electrically Heated Hydraulic Presses	6	DCC5	Dust Collector
COC6	6	Electrically Heated Curing Oven	1	FFC5	Fume Fan (Not a Control Device)
PPC6	6	Powder Paint Booth	1	DCC5	Dust Collector
SGC6	6	Slot Grinding Machine	1	DCC5	Dust Collector
SBC6	6	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	FFC5	Fume Fan (Not a Control Device)
Combination Line #7					
PRC7	7	Preformers & Electrically Heated Hydraulic Presses	6	DCC6	Dust Collector
COC7	7	Electrically Heated Curing Oven	1	FFC5	Fume Fan (Not a Control Device)
PPC7	7	Powder Paint Booth	1	DCC6	Dust Collector

Emissions Units				Control Device	
Source Code	**Serves the Following Downstream Combination Line(s)**	**Description**	**# of Units**	**APCD ID No.**	**APCD Description**
SGC7	7	Slot Grinding Machine	1	DCC6	Dust Collector
SBC7	7	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	FFC5	Fume Fan (Not a Control Device)
Combination Line #8					
PRC8*	**8**	**Preformers & Electrically Heated Hydraulic Presses**	**6**	DC2	Dust Collector
COC8*	**8**	**Electrically Heated Curing Oven**	**1**	2AC	Fume Fan (Not a Control Device)
PPC8*	**8**	**Powder Paint Booth**	**1**	DC2	Dust Collector
SGC8*	**8**	**Slot Grinding Machine**	**1**	DC2	Dust Collector
SBC2	8	Scorch Burner (Natural gas fired at 0.15 MMBtu/hr	1	2AC	Fume Fan (Not a Control Device)

*proposed within current application

Emissions Summary

PM Emissions

Controlled PM emissions are computed based on the permit allowable of 0.02 grains per dry standard cubic feet (gr/dscf) and the volume flow rate of the dust collectors. The facility-wide PTE for PM emissions is 100.61 tpy based on an allowable of 0.02 gr/dscf and the volume flow rate of the dust collectors. A revised permit allowable is required since the facility-wide PTE for PM emissions is equal to or greater than 100 tpy. The facility agreed to a revised permit allowable of 0.019 gr/dscf based on discussions with the Division in February 2023. This revised permit allowable grain loading and the volume flow rate of the dust collectors results in a facility-wide PTE for PM emissions of 95.57 tpy. Note: The facility assumes that PM_{10} and $PM_{2.5}$ are equivalent to PM.

VOC Emissions

VOC emissions result from application of an adhesive and operation of curing ovens and scorch burners. The facility utilizes site specific VOC emissions factors noted in the following table:

VOC Species	EF-Cement (kg/piece)	EF-Combination Line (kg/piece)
IPA	1.21E-03	1.21E-03
Ethyl Alcohol	4.85E-04	4.85E-04
Phenolic Resin	7.27E-04	7.27E-04
Trimethylamine	N/A	7.36E-08
Phenol	N/A	1.15E-07
Formaldehyde	N/A	1.13E-07

HAP Emissions

HAPs are emitted from curing oven and scorch burners on each combination line. The facility utilizes site specific individual HAP emissions factors noted in the following table:

VOC Species	EF-Combination Line (kg/piece)
Phenol	1.15E-07
Formaldehyde	1.13E-07
Hydrogen Fluoride	9.09E-10

Facility-Wide Emissions
(in tons per year)

Pollutant	Potential Emissions			Actual Emissions		
	Before Mod.	After Mod.	Emissions Change	Before Mod.	After Mod.	Emissions Change
PM	<100	<100	0.0	24.47	47.65	23.18
PM_{10}	<100	<100	0.0	24.34	47.41	23.07
$PM_{2.5}$	<100	<100	0.0	24.22	47.18	22.96
NOx	0.36	0.36	0.0	0.36	0.36	0.0
SO_2	0.03	0.03	0.0	0.03	0.03	0.0
CO	0.36	0.36	0.0	0.36	0.36	0.0
VOC	<95	<95	0.0	38.67	46.81	8.14
Max. Individual HAP	<10	<10	0.0	1.67	1.98	0.31
Total HAP	<25	<25	0.0	3.32	3.95	0.63
Total GHG (if applicable)	523.00	523.00	0.0	523.00	523.00	0.0

Regulatory Applicability

Georgia Rules 391-3-1-.02(2)(b), (e), and (g) apply to Combination Line #8.

Permit Conditions

Condition 2.1 is modified to update the applicable sources subject to Georgia Rule (b).

Condition 2.2 is modified to update the applicable sources subject to Georgia Rule (e).

Condition 2.3 is modified to update the applicable sources which must be controlled by the existing dust collectors.

Condition 2.4 is deleted as Georgia Rule (d) does not apply to the direct-fired scorch burners.

Condition 2.5 is modified to update the allowable grain loading from each dust collector in order for the facility to remain an SM source.

Condition 2.6 is modified to update the applicable sources subject to the existing VOC emissions limit for avoidance of 40 CFR 70.

Condition 6.2 is modified to require performance testing of PM emissions from dust collector DC2. Dust collector DC2 will have a potential increase in uncontrolled grain loading based on the proposed project.

Condition 7.5 is deleted because the facility does not compute VOC emissions using a mass balance.

Condition 7.9 is deleted because the facility does not compute HAP emissions using a mass balance.

Toxic Impact Assessment

The addition of proposed Combination Line #8 will result in an increase in actual emissions of the following TAPS: IPA, phenol, formaldehyde, ammonia, and hydrogen fluoride.

TAP	MER (lb/yr)	PTE Based on Bottlenecks (lb/yr)	Required to be Modeled?
IPA	114,000	38,680	No
Phenol	2,200	3,980	Yes
Formaldehyde	267	3,900	Yes
Ammonia	24,300	720	No
Hydrogen Fluoride	284	31.38	No

The facility ran SCREEN3 with the following exhaust parameters:

Exhaust Parameter	Metric System Units	English System Units
Stack Height	10.67 meters	35 feet
Stack Inside Diameter	0.7620 meters	2.5 feet
Stack Exit Velocity	8.2791 m/sec	27.17 ft/sec
Stack Gas Exit Temp	293 Kelvin	68 deg F

The 1-hour average MGLC, using SCREEN3 and a unit emissions value (1 g/sec), is 233.0 $\mu g/m^3$. The adjusted MGLCs, based on the applicable averaging period, are specified in the following table (a unit emissions value).

MGLC ($\mu g/m^3$)	Averaging Period	Basis
233.0	1-hour	SCREEN3
307.56	15-min	Adjusted from 1-hour
93.20	24-hour	Adjusted from 1-hour
18.64	Annual	Adjusted from 1-hour

The facility-wide emissions of phenol and formaldehyde pass the Georgia Air Toxics Guideline as specified in the following table:

TAP	Emissions	AAC ($\mu g/m^3$)	Averaging Period	MGLC 24-hr($\mu g/m^3$)	Passes?
Phenol	3,980 lb/yr 0.45 lb/hr 0.0566 g/s	45.2	24-hr	5.27	Yes
		6,000	15-min	17.40	Yes
Formaldehyde	3,900 lb/yr 0.45 lb/hr 0.0566 g/s	1.1	Annual	1.055	Yes
		245	15-min	17.40	Yes

Summary & Recommendations

I recommend issuance of Permit No. 3714-285-0070-S-05-1 to ADVICS Manufacturing Georgia, L.L.C. which is located at 1621 Lukken Industrial Drive West, LaGrange, Georgia (Troup County). This permit will authorize the construction and operation of Combination Line #8 as well as the construction and operation authorized through "No Permit Required" letter dated August 3, 2021 associated with Application # 28026. A public advisory was issued November 16, 2022 and expired on December 16, 2022. The SSCP will continue to be responsible for compliance at this facility. In addition, the facility has had the opportunity to review and comment on the pre-draft permit. The facility's comments have been incorporated.