Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Construction / Operating
PERMIT ID: F-24-026
Pittsburgh Glass Works, LLC dba Vitro Automotive Glass
2290 Menelaus Road
Berea, KY 40403

May 6, 2024
Jonathon Hughes, Reviewer

Source ID: 21-151-00048
Agency Interest #: 2846
Activity ID: APE20240001

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SECTION 1 - SOURCE DESCRIPTION

SIC Code and description: 3231, Glass Products

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

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

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

County: Madison
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☒ Yes ☐ No
If yes, list which pollutant(s): *Toluene*

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

*PTE does not include self-imposed emission limitations.

Description of Facility:
Pittsburgh Glass Works manufactures automotive glass products. Primers and adhesives are applied to glass products (windshields, windows, sunroofs and side/back lights) for the automotive industry.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-026 Activity: APE20240001

Application Received: 4/23/2024 Application Complete: 6/17/2024

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

Construction/Modification Requested? ☒Yes ☐No

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

Description of Action:
Transition from a minor source permit (S-15-052 R4) to an initial conditional major permit due to construction of additional manufacturing operations. Newly added lines are EP 22 through EP 26. There are also modifications to throughputs of already existing lines.

The source requested conditional major status as the PTE for VOCs and HAPs are not far below major source status and anticipated future changes are expected to cause these to become potentially major. As such, the facility has requested source-wide limits on single HAP, combined HAPs and VOC emissions below a major source threshold.

F-24-026 Emission Summary		
Pollutant	2022 Actual (tpy)	PTE F-24-026 (tpy)
CO	0.007	2.03
NOx	0.034	3.41
PT	0.726	4.46
PM_{10}	0.726	4.46
$PM_{2.5}$	0.328	4.45
SO_2	0.002	0.10
VOC	7.38	78.4
Lead	0	0.0005
Greenhouse Gases (GHGs)		
Carbon Dioxide	1.26	2530
Methane	0	0.047
Nitrous Oxide	0	0.005
CO_2 Equivalent (CO_2e)	1.26	2533
Hazardous Air Pollutants (HAPs)		
Methanol	0	7.52
Methylene Diphenyl Diisocyante	0.235	1.55
Toluene	0	6.08
Combined HAPs:	0.235	15.7

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Point 01, Emergency Generator
Initial Construction Date: 8/1989 **Process Description:** Model Caterpillar CA7 diesel fuel fired emergency generator **Applicable Regulation:** 401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, is applicable **Comments:** Power Output: 173 HP

Emission Points 04, 10-16, 18, 20-26, Surface Coating Operations				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	401 KAR 52:030	Material Balance & MSDS	Monthly recordkeeping, 12 month rolling total
HAP	Souce wide 9/22.5 tpy single/combined	401 KAR 52:030	Material Balance & MSDS	Monthly recordkeeping, 12 month rolling total
MDI	Source wide 2.62 tpy	401 KAR 63:020	Material Balance & MSDS	Monthly recordkeeping, 12 month rolling total
HDI	Source wide 0.042 tpy	401 KAR 63:020	Laboratory analysis, 0.05% maximum	Monthly recordkeeping, 12 month rolling total
TDI	Source wide 0.034 tpy	401 KAR 63:020	Laboratory analysis, 0.05% maximum	Monthly recordkeeping, 12 month rolling total

Initial Construction Date: *See below*

Process Description:

Emission Point 04 Clip priming (2 Stations)
Description:

Construction Date: 8/1/2014
Manual application using two applicators of 0.245 gal/hr. each.
Controls: None. Stack #2

Emission Point 10 Sidelite Assembly Line A (SL3)
Description:

Construction Date: 9/1/2019
Usage Rate: 1.34 gals/hr.
Controls: None. Stack #11

Emission Point 11 Sidelite Assembly Line B (SL4)
Description:

Construction Date: 9/1/2019
Usage Rate: 1.79 gals/hr.
Controls: None. Stack #11

Emission Point 12 Sidelite Door Cell (SL6)
Description:

Construction Date: 8/1/2020
Usage Rate: 2.38 gals/hr.
Controls: None. Stack #11

Emission Points 04, 10-16, 18, 20-26, Surface Coating Operations

Emission Point 13 **Clip Priming Station**
Description:
Construction Date: 9/1/2019
Usage Rate: 0.34 gals/hr.
Controls: None. Stack #6

Emission Point 14 **Backlite Assembly Line (BL2/BL1)**
Description:
Construction Date: 9/1/2019
Usage Rate: 1.81 gals/hr.
Controls: None. Stack #11

Emission Point 15 **Quarter Assembly Line (SL5)**
Description:
Construction Date: 9/1/2019
Usage Rate: 0.127 gals/hr.
Controls: None. Stack #8

Emission Point 16 **Windshield Assembly Line (WS2)**
Description:
Construction Date: 9/1/2019
Usage Rate: 0.68 gals/hr.
Controls: None. Stack #6

Emission Point 18 **Windshield Assembly Line 2 (WS1)**
Description:
Construction Date: 9/1/2019
Usage Rate: 0.65 gals/hr.
Controls: None. Stack #7

Emission Point 20 **Sidelite Door Line (SL4B/SL8)**
Description:
Construction Date: 11/24/2020
Usage Rate: 1.49 gals/hr.
Controls: None. Stack #11

Emission Point 21 **Sidelite Bonding Line (SL2)**
Description:
Construction Date: 2015
Usage Rate: 0.38 gals/hr.
Controls: None. Stack #11

Emission Points 04, 10-16, 18, 20-26, Surface Coating Operations

Emission Point 22 Line 2A Sidelite
Description:
Construction Date: Proposed July 2024
Usage Rate: 0.16 gals/hr.
Controls: None. Stack #10

Emission Point 23 Line 2B Quarter
Description:
Construction Date: Proposed July 2024
Usage Rate: 0.09 gals/hr
Controls: None. Stack #10

Emission Point 24 Line 7 Backlite
Description:
Construction Date: Proposed July 2024
Usage Rate: 0.07 gals/hr.
Controls: None. Stack #12

Emission Point 25 Line 17 Windshield
Description:
Construction Date: Proposed July 2024
Usage Rate: 0.18 gals/hr.
Controls: None. Stack #10

Emission Point 26 Line 18 Windshield
Description:
Construction Date: Proposed July 2024
Usage Rate: 0.13 gals/hr.
Controls: None. Stack #12

Applicable Regulation:
401 KAR 63:020, Potentially hazardous matter or toxic substances [State-Origin Requirement]

Comments:
Processes in this grouping involve the surface coating of automotive glass panels. Surface coating operations include the application of an adhesion promoter glass primer and application of various adhesives to the glass panels. The adhesives are used to provide fixation for various components to the glass panels to form the finished automotive glass product.

Emission factors for HDI and TDI were determined through LCS laboratory using analytical lab methods. HDI and TDI contained in coatings react with other coating components upon application and become particulate based compounds that are not emitted as air pollutants. Percentage of each is below the laboratory reporting limit of 0.05%. PTE calculations use 0.05% to be conservative knowing that actuals are in fact lower.

Emission Points 04, 10-16, 18, 20-26, Surface Coating Operations
Source-wide limits for HDI, TDI and MDI are based upon their maximum allowable emission rate that results in acceptable compliance with 401 KAR 63:020. A 9 tons per year limit is inappropriate for these 3 pollutants as they would fail to be in compliance with 401 KAR 63:020 at such levels. All other facility HAPs are capped at a 9 tons per year limit. Any future changes that result in a new higher emissions rate of any air toxic or any changes to stack parameters will require new air toxics modeling to be performed.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

N/A

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	To preclude major source status for criteria pollutants	Source-wide
2.62 tpy of MDI emissions	Compliance with 401 KAR 63:020	Source-wide
0.042 tpy of HDI emissions	Compliance with 401 KAR 63:020	Source-wide
0.034 tpy of TDI emissions	Compliance with 401 KAR 63:020	Source-wide
9.0 tpy of individual HAP emissions (other than HDI, TDI & MDI)	To preclude major source status for HAP	Source-wide
22.5 tpy of combined HAP emissions	To preclude major source status for HAP	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 63:020, *Potentially hazardous matter or toxic substances.*	All EPs except 01
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 to 63.6675, Tables 1a to 8, and Appendix A (Subpart ZZZZ) *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.*	01

Table C - Summary of Precluded Regulations:

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

Table D - Summary of Non Applicable Regulations:
N/A

Air Toxic Analysis
401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*
The Division for Air Quality (Division) has performed modeling using SCREEN View on June 14, 2024 of potentially hazardous matter or toxic substances (1,6 Hexamethylene Diisocyanate, 2,4 Toluene Diisocyanate, Methanol, Methyl Isobutyl Ketone, Methylene Diphenyl Diisocyanate, Toluene and Xylene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination
N/A

SECTION 5 - PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
S-15-052	Initial	APE20150001	8/13/2015	9/8/2015	Initial Construction Permit	N/A
S-15-052 R1	Revision	APE20160001	11/4/2016	11/23/2016	EP05, EP06 Throughput Change, Minor Source Revision	N/A
S-15-052 R2	Revision	APE20190001	8/2/2019	10/4/2019	Throughput change of Dowanol for EP 05, and EP 06. Addition of ten new emission units.	N/A
S-15-052 R3	Revision	APE20200001	7/9/2020	9/20/2020	Removing EP02, EP03, EP05. Removal of controls on EP07. Conversion of EP 12 to a new process. Adding IA15.	N/A
S-15-052 R4	Revision	APE20200002	1/5/2021	4/13/2021	Add EP20, IA10, IA11, Remove EP08, EP09, and five insignificant activities	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

None.

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds