

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

Conditional Major, Operating
Permit: F-26-026

Joy Global Underground Mining, LLC
750 Industrial Drive
Lebanon, KY 40033

May 28, 2026
Qinyi Wang, Reviewer

SOURCE ID:	21-155-00036
AGENCY INTEREST:	74613
ACTIVITY:	APE20260001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3532, Mining Machinery and Equipment Manufacturing

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: Marion

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): Ethyl Benzene, Methyl Isobutyl Ketone, Xylenes

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

*PTE does not include self-imposed emission limitations.

Description of Facility:

Joy Global operates a facility for the original equipment (OE) assembly, and repair/rebuild of mining machinery components.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-26-026

Activity: APE20260001

Application Received: 3/11/2026

Application Complete Date(s): 6/5/2026

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:

Joy Global Underground Mining LLC submitted a renewal permit application for their manufacturing facility located in Lebanon, Kentucky. The facility requested to replace the existing Typhoon Parts Washer with a new Stingray Parts Washer, which is identified as an Insignificant Activity #20 in the renewal permit (F-26-026).

F-26-026 Emission Summary		
Pollutant	2025 Actual (tpy)	PTE F-26-026 (tpy)
CO	0.29	6.91
NOx	0.34	14.76
PT	4.46	6.26
PM ₁₀	4.46	6.25
PM _{2.5}	4.46	2.52
SO ₂	0.002	0.05
VOC	3.08	350*
Lead	N/A	4.03E-05
Greenhouse Gases (GHGs)		
Carbon Dioxide	411	9,859
Methane	0.008	0.19
Nitrous Oxide	0.008	0.02
CO ₂ Equivalent (CO ₂ e)	414	9,870
Hazardous Air Pollutants (HAPs)		
Ethylbenzene	0	13.73*
Methyl Isobutyl Ketone	0	10.67*
Toluene	0	0.64
Xylenes	0	84.88*
Combined HAPs:	0	110.78*

Note:

**Emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds.*

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 05 Vacuum Pressure Impregnator (VPI) Emission Unit 06 Standard Manual (STD) Dip Tank Emission Unit 17 Paint Booth Emission Unit 20 Paint Booth 11				
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 and to preclude 401 KAR 51:017	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & SDS with Transfer Efficiency 90%, 35%, 70%	Dry Filters, 99.8 % C.E., Manufacturer's guarantee
	20 percent Opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations EP 17 & EP 20; Operated according to manufacturer's specifications for EP 05 & EP 06
Individual HAP	Source wide 9.0 tpy	401 KAR 52:030	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
Combined HAPs	Source wide 22.5 tpy	401 KAR 52:030	Material Balance & SDS	Monthly emission calculations and a new rolling 12-month total
Initial Construction Date: 2005, 2005, 2016, 2023 Process Description: VPI and Standard Dip Tanks operations use high molecular weight epoxy to coat motor windings. Paint Booths are used for coating equipment with an airless spray gun. Applicable Regulation: 401 KAR 59:010 , <i>New process operations</i> . This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975. State-Origin Requirement: 401 KAR 63:020 , <i>Potentially hazardous matter or toxic substances</i> , applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Precluded Regulations: 401 KAR 52:020 , <i>Title V Permits</i> . This regulation is precluded since the source has accepted emissions limited by federally-enforceable emission limitations to ensure the source remains below major source thresholds.				

Emission Unit 05 Vacuum Pressure Impregnator (VPI)

Emission Unit 06 Standard Manual (STD) Dip Tank

Emission Unit 17 Paint Booth

Emission Unit 20 Paint Booth 11

401 KAR 51:017, Prevention of significant deterioration of air quality. This regulation is to be precluded since the facility has accepted a 90 tpy limit on VOC emissions to preclude major source status and establish a synthetic minor status.

Comments:

Emission Unit 05 Vacuum Pressure Impregnator (VPI):

Implex NB Vacuum Pressure Impregnation Unit for Electrical Equipment

900-gallon/tank. Hourly design rate: 1.1 lb/hr

Transfer Efficiency 90%

Emission Unit 06 Standard Manual (STD) Dip Tank:

Dip tank coated electrical and mechanical parts

Hourly design rate: 4.34 lb/hr

Transfer Efficiency 90%

Emission Unit 17 Paint Booth:

(1) Binks Air Airless spray gun. Paint will be applied to miscellaneous metal parts used in the production of equipment for the mining industry.

Hourly design rate: 35 gallons/hr. coating, 0.08 gallons/hr solvent.

Transfer Efficiency 35%

Global Finishing Solutions GFS Wave fabric filter, C.E. 99.8%, Manufacturer's guarantee (provided in supplemental information submitted and filed under APE202600001)

Pressure drop 0.38" wc

Solvent use 2.0 gallon/day, 365 day/yr

Emission Unit 20 Paint Booth:

Open-face dry filter cross flow industrial paint booth.

One airless spray gun.

Hourly design rate: 13.8 gallons/hr

Transfer Efficiency: 70%

Global Finishing Solutions FIL-EPP2020-W filter, 99.9% Manufacturer's guarantee (provided in application submitted in 2023)

Pressure drop 0.4" wc

401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 through 63.11523, Tables 1 through 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*, is not applicable to the following processes based on the classification by SIC and due to the fact that the source is not primarily engaged (40 CFR 63.11522) in the operations of one of the nine source categories (40 CFR 63.11514(a)):

1. EU 17 & EU 20 – Spray Painting Operations

401 KAR 63:002, Section 2(4)(iiii), 40 C.F.R. 63.11169 through 63.11180, Table 1 (Subpart HHHHHH), *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface*

Emission Unit 05 Vacuum Pressure Impregnator (VPI)

Emission Unit 06 Standard Manual (STD) Dip Tank

Emission Unit 17 Paint Booth

Emission Unit 20 Paint Booth 11

Coating Operations at Area Sources, is not applicable to the spray painting operations (EU 17 & EU 20) at this facility based on the following: 1. Paint stripping with methylene chloride (MeCl) is not performed (40 CFR 63.11170(a)(1)). 2. The coatings used do not contain the target HAPs, with the exception of the spray on green epoxy insulating varnish. This coating contains 2.03% Chromium, but it is applied from an aerosol spray can (EU 17 & EU 20) which does not meet the definition of a spray applied coating (40 CFR 63.11180). Spray applied coating do not include **nonrefillable** aerosol containers.

Emission Unit 08 Twenty four (24) Welding Stations				
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)	AP:42 Engineering Estimate	Filters, 99 % C.E., Manufacturer's guarantee
	20 percent Opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations
Individual HAP	Source wide 9.0 tpy	401 KAR 52:030	AP:42 Engineering Estimate	Monthly emission calculations and a new rolling 12-month total
Combined HAPs	Source wide 22.5 tpy	401 KAR 52:030	AP:42 Engineering Estimate	Monthly emission calculations and a new rolling 12-month total
Initial Construction Date: 2005 Process Description: Welding for multiple processes. Applicable Regulation: 401 KAR 59:010, <i>New process operations</i>. This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975. State-Origin Requirement: 401 KAR 63:020, <i>Potentially hazardous matter or toxic substances</i>, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Comments: Welding Stations Rated Capacity: Hourly Design Rate: 165.6 lb./hr. Torit -Ultra-Web® FR Filter Cartridge 99% efficiency (provided in supplemental information submitted and filed under APE202600001) 401 KAR 63:002, Section 2(4)(vvvvv), 40 CFR 63.11514 through 63.11523, Tables 1 through 2 (Subpart XXXXXX), <i>National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories</i>, is not applicable to the following processes based on the classification by SIC and due to the fact that the source is not primarily engaged (40 CFR 63.11522) in the operations of one of the nine source categories (40 CFR 63.11514(a)): 1. EU 08 - Miscellaneous Welding Operations				

Emission Unit 18 Cutting Table				
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)	Plasma Cutting Studies	Proper operation and maintenance
	20 percent Opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations
Initial Construction Date: 2021				
Process Description: A cutting table to cut steel pieces.				
Applicable Regulation: 401 KAR 59:010, <i>New process operations</i> . This regulation is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.				
Comments: The application for the cutting equipment was submitted in the renewal application filed under APE20210001 and provides NOx Emission factor taken from "Emissions of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" Bromeen B. et al March 1994.				

Emission Unit 27 (IA-24) Storm Shelter Emergency Generator

Initial Construction Date: 6/2013

Process Description:

Natural Gas Fired Emergency Spark Ignition (SI) Reciprocating Internal Combustion Engines (RICE): Rich Burn
Power Output Rated Capacity: 14.8 bhp
Displacements: 0.41 L
Model year: 2013

Applicable Regulation:

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. Pursuant to 40 CFR 63.6590 (a)(2)(iii), the engine is an affected source under Subpart ZZZZ and is classified as a new stationary RICE located at an area source of HAP emissions. However, pursuant to 40 CFR 63.6590(c)(1) new stationary RICE located at area source may comply with requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ. No further requirements apply to these under 40 CFR Part 63 Subpart ZZZZ.

Comments:

401 KAR 60:005, Section 2(2)(eeee), 40 C.F.R. 60.4230 through 60.4248, Tables 1 through 4 (Subpart JJJJ), *New Source Performance for Stationary Spark Ignition Internal Combustion Engines*, is applicable to stationary spark ignition (SI) emergency generator engines greater than 25 hp for which construction is commenced after June 12, 2006 and which are manufactured after January 1, 2009. Storm Shelter Emergency Generator is 14.8 HP which is less than 25 HP. Therefore, this regulation is not applicable to Storm Shelter Emergency Generator.

This was an insignificant activity with KYEIS designation IA-24. However, further review in this renewal shows that the unit is subject to 40 CFR 63, Subpart ZZZZ. This unit is now identified as Emission Unit 27 with KYEIS designation IA-24 in the POC.

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
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	401 KAR 52:030 and to preclude 401 KAR 51:017	Source-wide
9.0 tpy of individual HAP emissions	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 59:010, <i>New process operations.</i>	05, 06, 08, 17, 18, 20
401 KAR 63:020, <i>Potentially hazardous matter or toxic substances.</i>	08, 17, 20
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (Subpart ZZZZ), <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.</i>	27

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 51:017, <i>Prevention of significant deterioration of air quality.</i>	Source-wide
401 KAR 52:020, <i>Title V Permits.</i>	Source-wide

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed SCREEN View on June 1, 2026 of potentially hazardous matter or toxic substances (2-Butoxyl Ethanol, 2-Butyl Alcohol, Ethyl Benzene, Methyl Isobutyl Ketone, Xylenes, Cumene, Triethyl Amine, Cobalt, Chromium Manganese, Nickel, Methanol, Naphthalene, and Toluene) and AERMOD on April 19, 2023 of potentially hazardous matter or toxic substances (Ethylbenzene, Manganese and Nickel) 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
	Registration	ARE20050001	7/7/2005	9/30/2005	Source Registration	N/A
S-10-066	Initial	APE20100001	4/7/2010	6/3/2010	Initial Operating/ Construction Permit	N/A
F-16-040	Initial	APE20160002	6/14/2016	8/16/2016	Change from minor source permit to conditional major permit and add 1 paint booth	N/A
F-21-006	Renewal	APE20210001 APE20210002	2/22/2021	9/26/2021	Permit renewal. Remove EP17 Paint Booth. Add EP18 Cutting Table	N/A
F-21-006	Renewal	APE20210001 APE20210002	2/22/2021	9/26/2021	Permit Renewal. Remove EP17 Paint Booth. Add EP18 Cutting Table	N/A
F-21-006 R1	Minor Revision	APE20230001	4/12/2023	8/16/2023	Add EP20 Paint Booth.	Syn Minor

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