Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-24-034
Precision of Iowa Inc.
1072 Progress Way
Maysville, KY 41056
July 8, 2024
Qinyi Wang, Reviewer

SOURCE ID:	21-161-00052
AGENCY INTEREST:	163126
ACTIVITY:	APE20240001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3535, Conveyors and Conveying Equipment

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: Mason
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): Ethyl Benzene, Toluene, Xylenes (Total)

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

*PTE does not include self-imposed emission limitations.

Description of Facility:
Precision Pulley and Idler manufactures conveying equipment.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-034 Activity: APE20240001

Application Received: May 24, 2024 Application Complete Date(s): July 1, 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:

On May 24, 2024, an application was received from Precision of Iowa Inc. for a renewal of their conditional major permit (F-19-036) for their Precision Pulley and Idler conveying equipment manufacturing facility in Maysville, KY. The facility is being issued an air permit pursuant to 401 KAR 52:030.

- Remove 2 welding units and the count went from 9 to 7
- Adding additional lathes and the count is now at 16

F-24-034 Emission Summary		
Pollutant	2023 Actual (tpy)	PTE F-24-034 (tpy)
CO	N/A	0
NOx	N/A	0
PT	0.0082	0.84
PM_{10}	0.0082	0.81
$PM_{2.5}$	0.0077	0.62
SO_2	N/A	0
VOC	1.58	99.07*
Lead	N/A	0
Greenhouse Gases (GHGs)		
Carbon Dioxide	N/A	0
Methane	N/A	0
Nitrous Oxide	N/A	0
CO_2 Equivalent (CO_2e)	N/A	0
Hazardous Air Pollutants (HAPs)		
Total HAPs:	0.8598	78.60*
Ethyl Benzene	0.17	11.61*
Toluene	0.07	25.53*
Xylenes (Total)	0.53	38.62*

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 #01 Surface Coating Operation				
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)	Material Balance & MSDS, 60% Paint PM Transfer Efficiency	Dry Filter, 99% C.E., Daily Pressure Drop Reading
	< 20% opacity	401 KAR 59:010, Section 3(1)	N/A	Recordkeeping of weekly visual observation
VOC	90 tpy of VOC emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total
Single HAP	9.0 tpy of individual HAP emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total
Combined HAP	22.5 tpy of combined HAP emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total

Initial Construction Date: 9/2019

Process Description:
Paint booth where the ends of pulleys and rollers are painted. An HVLP spray gun is used.

Applicable Regulation:

401 KAR 59:010, *New process operations*. 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, *Potentially hazardous matter and toxic substance emissions*

Precluded Regulations:

401 KAR 52:020, *Title V permits.* 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.

Comments:
The emissions from paint coating are calculated using mass balances. A transfer efficiency of 60% is assumed for calculating PM/PM_{10} emissions. A particulate matter control efficiency of 99% is assumed for the spray booth filters.

Emission Unit #02 Lagging Department				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	90 tpy of VOC emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total
Single HAP	9.0 tpy of individual HAP emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total
Combined HAP	22.5 tpy of combined HAP emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping, 12-month rolling total

Initial Construction Date: 9/2019

Process Description:
Adhesive is used to bind extruded rubber to pulleys. The adhesive is applied using rollers.

State Origin Requirement:
401 KAR 63:020, *Potentially hazardous matter and toxic substance emissions*

Precluded Regulations:

401 KAR 52:020, *Title V permits.* 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.

Comments:
The emissions from adhesive coating are calculated using mass balances. The adhesive rollers are assumed to have 100% PM transfer efficiency.

The facility does not mix its own rubber onsite. The rubber is supplied premade.

Emission Unit #03 Blast Booth				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	6.53 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42 & SDS	Dust Collector, 99.9% C.E., Daily Pressure Drop Reading
	< 20% opacity	401 KAR 59:010, Section 3(1)	N/A	Recordkeeping of weekly visual observation
Single HAP	9.0 tpy of individual HAP emissions	To Preclude 401 KAR 52:020	Material Balance & SDS	Monthly recordkeeping
Combined	22.5 tpy of	To Preclude 401	Material Balance &	Monthly recordkeeping

Emission Unit #03 Blast Booth				
HAP	combined HAP emissions	KAR 52:020	SDS	

Initial Construction Date: 9/2019

Process Description:
Shot blasting is conducted using steel abrasive.
Viking GC 420 Sandblaster and Viking VK2800 dust collector

Applicable Regulation:

401 KAR 59:010, *New process operations*

State Origin Requirement:

401 KAR 63:020, *Potentially hazardous matter and toxic substance emissions*

Precluded Regulations:

401 KAR 52:020, *Title V permits.* 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.

Comments:
The emissions from blast booth operations are estimated using emission factors from AP-42 Chapter 13.2.6. The steel shot material is assumed to generate approximately 10% of the emissions of sand abrasive. A particulate matter control efficiency of 99.9% is assumed for the dust collector. SDS information was used to make an assumption about the fraction of PM that would be HAP material.

Emission Unit #04 Welding (Insignificant Activity)

Initial Construction Date: 9/2019

Process Description:
Weldering material is Lincolnweld Super Arc L-56. A 70% fume control is assumed by building enclosure.

Applicable Regulation:
401 KAR 59:010, *New process operations*

State Origin Requirement
401 KAR 63:020, *Potentially hazardous matter and toxic substance emissions*

Comments:
2 welding units have been removed and the count went from 9 to 7.

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	To preclude the applicability of 401 KAR 52:020, *Title V Permits*	Source-wide
9.0 tpy of individual HAP emissions	To preclude the applicability of 401 KAR 52:020, *Title V Permits*	Source-wide
22.5 tpy of combined HAP emissions	To preclude the applicability of 401 KAR 52:020, *Title V Permits*	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, *New process operations.*	EU01, EU03, EU04
401 KAR 63:020, *Potentially hazardous matter or toxic substances.*	EU01, EU02, EU03, EU04

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 52:020, *Title V permits*	

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

Air Toxic Analysis

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

The Division for Air Quality (Division) has performed modeling using AERMOD on August 23, 2019 of potentially hazardous matter or toxic substances (Ethyl Benzene, Toluene, Xylenes, Naphtha, 2-Butyl Alcohol, Trimethyl Benzene, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Trichloroethylene, and 1, 2 – Epoxybutane) and SCREEN View on June 24, 2024 of potentially hazardous matter or toxic substances (Ethyl Benzene, Toluene, Xylenes, Naphtha, 2-Butyl Alcohol, Trimethyl Benzene, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Trichloroethylene, 1, 2 – Epoxybutane, and Manganese) 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
F-19-036	Initial	APE20190001	8/22/2019	10/6/2019	Initial Construction Permit	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