

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

Conditional Major, Operating
PERMIT ID: F-24-014
Industrial Tech Services
321 Triport Rd, Georgetown, KY 40324
March 6, 2024
Nathan Cox, Reviewer

Source ID: 21-209-00033
Agency Interest #: 39870
Activity ID: APE20230003

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SECTION 1 - SOURCE DESCRIPTION

SIC Code and description: 3499, Fabricated Metal Products, NEC (other metal 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: Scott

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): Methanol, Toluene, Xylenes.

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

Industrial Tech Services manufactures sheet metal parts for conveyors, tanks, paint booths, and special purpose machines using metal fabrication, welding, spray finishing, assembly, and touch-up painting operations.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-014

Activity: APE20230003

Application Received: 9/25/2023

Application Complete: 11/24/2023

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:

Industrial Tech Services is seeking a renewal of their Conditional Major, Operating permit. Industrial Tech Services has requested removal of 6 of the 12 welding units from EU 02. This renewal adds therequirements of the management practices for welding operations as cited in 40 CFR 63, subpart XXXXXX [40 CFR 63.11516(f)(1) through (8) to 1. Operating limitations in the permit to provide clarity.

F-24-014 Emission Summary		
Pollutant	2022 Actual (tpy)	F-24-014 PTE (tpy)
CO	0	0.54
NOx	0	0.64
PT	0.007	6.15
PM ₁₀	0.007	6.15
PM _{2.5}	0.004	4.78
SO ₂	0	0.004
VOC	0.50	366.86*
Lead	0	3.20E-6
Greenhouse Gases (GHGs)		
Carbon Dioxide	0.10	767
Methane	0	0.01
Nitrous Oxide	0	0.001
CO ₂ Equivalent (CO ₂ e)	0.10	768
Hazardous Air Pollutants (HAPs)		
Cumene	0.004	1.18
Ethyl Benzene	0.006	4.66
Glycol Ethers	0.004	1.85
Methanol	0.04	19.49*
Toluene	0.05	34.02*
Xylenes (Total)	0.03	25.11*
Combined HAPs:	0.14	86.37*

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

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

EP 01 Manual Paint Booth (EP1A-EP1E)				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
VOC	Source-wide 90 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Individual HAP	Source-wide 9 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAP	Source-wide 22.5 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
PM	< 20% opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observation
	2.34 lb/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 60%, 80% Transfer Efficiency	Dry Filters, 90% C.E., Manufacturer's guarantee

Initial Construction Date:EP1A-EP1C: October 1986, EP1D-EP1E: November 2018

Process Description:

The spray finishing process includes a paint booth with two HVLP spray guns and one electrostatic spray gun. One of the HVLP guns is used to apply primer and the other is used to apply enamel. The electrostatic spray gun applies both enamel and lacquer to metal parts. A back-draft air filtering system is used on the paint booth to control particulate matter.

EP1A-D: HVLP spray gun with 2 applicators:

EP1A: worse case primer emissions; EP1B: worst case enamel emissions; EP1C: worse case thinner emissions

EP1D-E: Electrostatic spray gun with 3 applicators:

EP1D: worst case enamel emissions and EP1E: worst case thinner emissions

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.

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*. This regulation is applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to the administrative regulations of the Division of Air Quality.

EP 01 Manual Paint Booth (EP1A-EP1E)

Precluded Regulations:

401 KAR 63:002, Section 2(rrr), 40 CFR Part 63, Subpart MMMM, *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*. This regulation is precluded because the source has taken emission limits of 9.0 tpy for single HAP and 22.5 tpy for all HAP combined, which is below the major source threshold for HAP.

401 KAR 52:225, *New Miscellaneous Metal Parts and Products Surface Coating Operations*, is precluded because the facility has taken a 90 tpy limit for VOC emissions, which is below the major source threshold for VOC (401 KAR 52:225 Section 2(1)(b)).

Comments:

HVLP spray gun maximum throughput: 4 gallon/hr, transfer efficiency of 60%; electrostatic spray gun maximum throughput 14 gallon/hr, transfer efficiency 80%. Fabric filter assumed 90% PM control.

401 KAR 63:002, Section 2(iiiii), 40 CFR Part 63 Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, does not apply because the spray coatings do not contain chromium, lead, manganese, nickel or cadmium, collectively referred to as target HAPs (40 CFR 63.11170(a)(3)).

EP 02 Gas Metal Arc Welding (GMAW) and EP 03 Machining Operations

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
Individual HAP	Source-wide 9 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAP	Source-wide 22.5 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
PM	<20% opacity	401 KAR 59:010 & 40 CFR 63 Subpart XXXXXX	N/A	Subpart XXXXXX graduated schedule for visual determination
	2.34 lb/hr	401 KAP 59:010, Section 3(2)	Material Balance & MSDS	Building enclosure 70% CE

Initial Construction Date: October 1996, Prior to 2008

Process Description:

EP 02: Stainless steel and carbon steel welding wire welding area with 6 MIG welding machines.

EP 03: Metal fabrication equipment including, but not limited to, saws, shears, lathes, mills, drills, and iron working machines

EP 02 Gas Metal Arc Welding (GMAW) and EP 03 Machining Operations

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.

401 KAR 63:002, Section 2(4)(vvvvv), 40 CFR 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*. This regulation is applicable to each area source of hazardous air pollutants primarily engaged in one of the nine source categories listed in paragraphs (a)(1) through (9) of 40 CFR 63.11514.

Comments:

Both carbon steel and stainless steel welding wire is used and contains metal fabrication or finishing metal hazardous air pollutants (MFHAP), such as manganese, nickel, and chromium.

A building enclosure control efficiency of 70% was used for the potential emission calculations.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements/Results

N/A

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, <i>Federally-enforceable permits for nonmajor sources</i>	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>	EP 01, EP 02, EP 03
401 KAR 63:020, <i>Potentially hazardous matter or toxic substances.</i>	EP 01
401 KAR 63:002, Section 2(4)(vvvvv), 40 CFR 63, Subpart XXXXXX, <i>National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.</i>	EP 02, EP 03

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>	
401 KAR 52:225, <i>New Miscellaneous Metal Parts and Products Surface Coating Operations.</i>	EP 01
401 KAR 63:002, Section 2(4)(rrr), 40 CFR Part 63, Subpart MMMM, <i>National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products.</i>	

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS (CONTINUED)

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 February 12, 2024 of potentially hazardous matter or toxic substances (Cumene, Glycol Ethers, Methanol, Toluene, 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.

The Division for Air Quality (Division) has performed modeling using AERMOD on December 19, 2018 of potentially hazardous matter or toxic substances (Ethybenzene) 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
O-87-134	Initial	102-3640-0033	11/17/1987	3/8/1988	Initial Operating Permit	N/A
S-06-198	Renewal	APE20040001	2/11/2005	9/14/2006	Renewal	N/A
F-09-017	Initial	APE20090002	5/4/2009	10/22/2009	Initial Operating Permit	N/A
F-14-027	Renewal	APE20140001	5/7/2014	10/13/2014	Renewal Permit	N/A
F-18-057	Renewal	APE20180003	11/27/2018	4/28/2019	Renewal Permit	Syn Minor
F-24-014	Renewal	APE20230003	11/24/2023		Renewal Permit. Remove 6 Welders from EP 02.	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