

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS

Conditional Major, Operating
Permit: F-24-006
Donaldson Company, Inc.
200 Etter Drive
Nicholasville, KY 40356
May 8, 2024
Ibrahim AL-Burai, Reviewer

SOURCE ID:	21-113-00016
AGENCY INTEREST:	2286
ACTIVITY:	APE20230002

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SECTION 1 – SOURCE DESCRIPTION

SIC Code: 3569

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: Jessamine

Nonattainment Area N/A PM₁₀ PM_{2.5} CO NO_x SO₂ Ozone Lead

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): Methyl Isobutyl Ketone, Toluene, Xylene

PTE* greater than 25 tpy for combined HAP Yes No

*PTE does not include self-imposed emission limitations.

Description of Facility:

The Donaldson Company, Inc. manufactures air filtration systems.

SECTION 2 – CURRENT APPLICATION

Permit Number: F-24-006

Activities: APE20230002

Received: September 5, 2023

Application Complete Date(s): November 1, 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:

- Renewal permit with no new construction
- Addition of plasma cutter to insignificant activities

F-24-006 Emission Summary		
Pollutant	2022 Actual (tpy)	PTE F-24-006 (tpy)
CO	1.5162000	4.53
NOx	1.8050000	5.39
PT	0.2611	7.46
PM ₁₀	0.2695	7.46
PM _{2.5}	0.1274	5.75
SO ₂	0.0108	0.03
VOC	9.1336	77.42
Lead	0.00003	0.00003
Greenhouse Gases (GHGs)		
Carbon Dioxide	2166	6452.43
Methane	0.0415	0.12
Nitrous Oxide	0.0397	0.01
CO ₂ Equivalent (CO ₂ e)	2178.8685	6459.10
Hazardous Air Pollutants (HAPs)		
Ethyl Benzene	0.1791	1.7
Methanol	0	0.02
Methyl Isobutyl Ketone	0.1214	2.11
Naphthalene	0	0.05
Toluene	0.053	0.15
Xylenes (Total)	0.3712	5.10
Combined HAPs:	0.7247	9.27

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Units #1 & #2 Coating Lines (EU 01 and EU 02)				
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 Recordkeeping, 12 month rolling total
HAP	Source wide 9 tpy single, 22.5 tpy combined	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS	Filters
	< 20% opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation

Initial Construction Date: See below tables

Emission Unit 01: Coating Line# 1

Machine Point	KYEIS Process ID	Machine Point Name	Description	Maximum Rated Capacity	Applicable Regulation(s)	Control Device and Efficiency
MP3 (7)	-	Alkaline Wash	No Emission	100 lbs/day	None	None
MP4 (8)	-	Iron Phosphate Wash	No Emission	100 lbs/day	None	None
MP5 (3)	3	Parts Dry Off Oven	Natural gas fired Oven <i>Manufacturer:</i> Advanced Cure Custom Cure Oven <i>Construction Date:</i> 1979	3.5 MMBtu/hr	401 KAR 63:020	None
MP7 (21)	6	Powder Paint Booth	Spray apply powder paint to dust collector components on monorail conveyor <i>Construction Date:</i> 1996	25 lbs/hr (0.0125 tph)	401 KAR 59:010	HEPA Filters Control Efficiency: 99.96%

Emission Units #1 & #2 Coating Lines (EU 01 and EU 02)

MP8 (22)	7	Powder Paint Booth	Spray apply powder paint to dust collector components on monorail conveyor <i>Construction Date: 1996</i>	25 lbs/hr (0.0125 tph)	401 KAR 59:010	HEPA Filters Control Efficiency: 99.96%
MP10 (2)	10	Paint Curing Oven	Natural gas fired Oven <i>Manufacturer: Advanced Cure Custom Cure Oven Construction Commenced: 1979</i>	2.5 MMBtu/hr	401 KAR 63:020	None

Emission Unit 02: EU02 Coating Line# 2

Machine Point	KYEIS Process ID	Machine Point Name	Description	Maximum Rated Capacity	Applicable Regulation(s)	Control Device and Efficiency
MP1 (F2)	1	Spray Wash Heater #1	Galaxy Model 1024 Natural gas fired <i>Construction Date: 2008</i>	0.39 MMBtu/hr	401 KAR 63:020	None
MP1 (F2)	2	Spray Wash Heater #2	Galaxy Model 1024 Natural gas fired <i>Construction Date: 2008</i>	0.39 MMBtu/hr	401 KAR 63:020	None
MP3 (5A-B)	3	RF Paint Booth	Spray apply coatings of paint to dust collector components in downdraft paint booth <i>Construction Date: 1996</i>	Coating: 6.0 gals/hr	401 KAR 59:010 401 KAR 63:020	Fabric Filters Control Efficiency: 98%

Emission Units #1 & #2 Coating Lines (EU 01 and EU 02)

MP3 (5A-B0)	4	Solvent Use MP4 (5A-B0)	Spray apply coatings of paint to dust collector components in downdraft paint booth <i>Construction Date: 1996</i>	Clean-Up Solvent: 0.5 gal/hr	401 KAR 63:020	
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Process Description:

Coating Lines

Applicable Regulations:

401 KAR 59:010, New process operations, is applicable to each affected facility or source, associated with process operations, which are not subject to another emission standard with respect to particulate matter emissions and commenced after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances.

Precluded Regulations:

401 KAR 59:225, New miscellaneous metal parts and products surface coating operations. To avoid the applicability of this regulation, the source has voluntarily accepted a facility-wide VOC emissions (including insignificant activities and combustion units) limit of 90 tons per rolling 12-month period. Compliance with this allowable will be demonstrated by record keeping and emissions estimating methodology specified in the terms and conditions of the permit.

401 KAR 63:002, Section 2(4)(rrr) 40 C.F.R. 63.3880 to 63.3981, Tables 1 to 4, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products is precluded since the facility has accepted limitations on emissions of HAPs that are below major source status.

Non-Applicable Regulation:

N/A

Comments:

- Emission factors from MSDS and AP-42, Chapter 1.4
- **401 KAR 63:002 Section 2(4)(iiii)**, 40 C.F.R. 63.11169 to 63.11180, Table 1 (Subpart HHHHHH), National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources. This regulation is not applicable since the source does not use coatings containing the target HAPs.

Emission Unit #3 Boilers				
Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	0.56 lb/MMBtu	401 KAR 59:015, Section 4(1)	AP-42 Chapter 1.4	Assumed, combusts only natural gas
	< 20% opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO ₂	3.0 lb/MMBtu	401 KAR 59:015, Section 5(1)	AP-42 Chapter 1.4	Assumed, combusts only natural gas

Initial Construction Date: See below tables

Emission Unit 03: Boilers

Machine Point	Machine Point Name	Description	Maximum Rated Capacity	Control Device and Efficiency
MP1 (9)	Parts Washer #1 Boiler Alkaline Wash	Stage 1 of 6 stage wash booth Natural gas fired Parts Washer #1 Boiler <i>Construction Date: 1996</i>	2.80 MMBtu/hr	None
MP2 (10)	Parts Washer #2 Boiler Phosphate Wash	Stage 4 of 6 stage wash booth Natural gas fired Parts Washer #2 Boiler <i>Construction Date: 1979</i>	2.0 MMBtu/hr	None

Process Description:

Facility boilers

Applicable Regulations:

401 KAR 59:015, New indirect heat exchangers, is applicable with respect to particulate emissions and sulfur dioxide emissions to each affected facility with a capacity of 250 MMBtu/hr or less and commenced on or after April 9, 1972.

401 KAR 63:020, Potentially hazardous matter or toxic substances.

Comments:

Emission factors from AP-42 Chapter 1.4

Emission Unit #IA01 Welding operations- Insignificant Activity

Initial Construction Date: 9/1998

Process Description:

Welding Operations (113 welders)

GMAW (308L) process,

Total Rod Usage: 9.68 lbs/hr

Applicable Regulation:

401 KAR 59:010, New process operations, is applicable to each affected facility or source, associated with process operations, which are not subject to another emission standard with respect to particulate matter emissions and commenced after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances.

Comments:

- Emission factors are taken from AP-42, Tables 12.19-1 and 12.19-2.
- 40 CFR Part 63, Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source categories, does not apply because the source is not in one of the nine metal fabrication and finishing source categories.

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	To preclude the applicability of 401 KAR 52:020, <i>Title V Permits</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 , New process operations,	EU 01 & 02
401 KAR 63:020 , Potentially hazardous matter or toxic substances.	EU 01, 02 & 03
401 KAR 59:015 , New indirect heat exchangers.	EU 03

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 63:002, Section 2(4)(rrr) 40 C.F.R. 63.3880 to 63.3981, Tables 1 to 4, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products	Source-wide
401 KAR 59:225 , New miscellaneous metal parts and products surface coating operations.	Source-wide

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 SCREEN View on April 18, 2024 of potentially hazardous matter or toxic substances (Chromium, Ethyl Benzene, Manganese, Xylene, Methyl Isobutyl Ketone, Naphthalene, Nickel, Total (as Ni) and Toluene) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
V-03-010	Initial Title V	54591	6/26/2002	11/1/2003	Initial Title V	N/A
V-03-010 R1	Minor Revision	APE20040002	9/1/2005	10/3/2005	Remove EP 03 paint booth. Add EP 24 burn off oven	N/A
V-08-030	Renewal	APE20080001	7/23/2008	1/9/2014	Renewal	N/A
V-13-036	Renewal	APE20130001	10/7/2013	4/18/2014	Renewal	N/A
F-18-054	Renewal	APE20180003	11/19/2018	3/9/2019	Renewal / Conditional Major Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

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
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
MMBtu/hr	– million BTU per hour