

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

Conditional Major, Construction/Operating

Permit: F-24-007

Hyster -Yale Group, Inc.

Berea, KY 40403

February 6, 2024

Jonathon Hughes, Reviewer

SOURCE ID: 21-151-00035

AGENCY INTEREST: 2837

ACTIVITY: APE20230002

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## SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3537, Industrial Trucks, Tractors and Stackers

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<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  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<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  VOC

PTE\* greater than 250 tpy for any criteria air pollutant  Yes  No

If yes, for what pollutant(s)?

PM<sub>10</sub>  PM<sub>2.5</sub>  CO  NO<sub>x</sub>  SO<sub>2</sub>  VOC

PTE\* greater than 10 tpy for any single hazardous air pollutant (HAP)  Yes  No

If yes, list which pollutant(s): Ethyl Benzene and Xylene

PTE\* greater than 25 tpy for combined HAP  Yes  No

\*PTE does not include self-imposed emission limitations.

### Description of Facility:

Hyster-Yale Group, Inc. located in Berea, KY manufactures forklift trucks. Primary sources of emissions at this facility include metal cleaning using blasting media, painting, and natural gas combustion.

**SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM**

Permit Number: F-24-007

Activity: APE20230002

Received: November 1, 2023

Application Complete Date: February 5, 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

APE20200001 – Correction of information (model number, filter type, filter control efficiency) regarding shotblast unit (EP 48). Issued 12/29/2020

**Description of Action:**

Renewal permit with construction of new unit EU 24 Paint Booth. EU 03 Small Parts Line and associated emission points have been removed from the permit. Emission factors and/or throughputs of various emission units have been updated.

F-24-007 Emission Summary				
Pollutant	2022 Actual (tpy)	Previous PTE F-18-056 R1 (tpy)	Change (tpy)	Revised PTE F-24-007 (tpy)
CO	3.84	19.4	-4.8	14.6
NO <sub>x</sub>	4.66	23.2	-3.8	19.4
PT	1.53	68.9	+12.2	81.1
PM <sub>10</sub>	1.53	68.8	+12.3	81.1
PM <sub>2.5</sub>	0.480	52.7	+22.6	75.3
SO <sub>2</sub>	0.035	0.14	+0.15	0.29
VOC	16.3	1236	+532*	1768
Lead	0	0	0	0
Greenhouse Gases (GHGs)				
Carbon Dioxide	5452	27620	-7976	19644
Methane	0.105	0.53	-0.15	0.38
Nitrous Oxide	0.052	0.23	-0.193	0.037
CO <sub>2</sub> Equivalent (CO <sub>2</sub> e)	5470	27702	-8038	19664
Hazardous Air Pollutants (HAPs)				
Xylenes (Total)	0.838	427	-72	355
Ethyl Benzene	0.140	71.4	-0.8	70.6
Napthalene	0.037	20.3	-20.3	0
Toluene	0	0	+4.73	4.73
Combined HAPs:	1.77	519	-88	431

\*Worst case emissions increase from the project – addition of new paint booth (EU 24) is 230 tpy.

**SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS**

<b>EP 15 (Main Line Paint Booth #1 Primer), EP 16 (Main Line Paint Booth #2 Primer), EP 13 (Main Line Paint Booth #3 Top Coat), EP 14 (Main Line Paint Booth #4 Top Coat), EP 17 (Main Line Cure Oven)</b>				
<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month goal
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	MSDS	Wet Scrubber, 90% C.E., Manufacturer's guarantee 60% T.E.
	Source wide 90 tpy	To preclude 401 KAR 52:020	MSDS	
	20% Opacity	401 KAR 59:010, Section 3(1)	N/A	Weekly Visual Observation
Single HAP	Source wide 9 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month goal
Combined HAPs	Source wide 22.5 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month goal

**Initial Construction Date :** 1/1996

**Process Description:**

The Main Line process consists of two primer spray booths, a flash tunnel, two top coat spray booths and a cure oven. Metal parts that are painted in this process are blasted free of rust prior to entering the paint line. The blasting is done in the Main Line Wheelabrator 8 monorail system that is exhausted to a baghouse. Paint application is performed by hand held Graco design spray guns. All paint booths employ wet scrubbers for particulate removal with 90% control efficiency. VOC emissions from the flash tunnels are assumed to be carry over as parts move in the system since no painting occurs there. A Touch-up paint booth is located at the end of the Main Line system that utilizes dry filters for particulate removal.

**Applicable Regulations:**

**401 KAR 59:010**, New process operations.

**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 is precluded since the facility has a source-wide for VOC emissions below a major source threshold and is not located in a county designated non-attainment (except marginal) for ozone.

**401 KAR 63:002, Section 2(4)(rrr)** 40 C.F.R. 63.3880 through 63.3981, Tables 1 through 5, 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 source-wide limits for HAP emissions below a major source threshold.

**EP 15 (Main Line Paint Booth #1 Primer), EP 16 (Main Line Paint Booth #2 Primer),  
 EP 13 (Main Line Paint Booth #3 Top Coat), EP 14 (Main Line Paint Booth #4 Top Coat),  
 EP 17 (Main Line Cure Oven)**

**Comments:**

1. Paint booths employ a water wash system for particulate removal.
2. The emission factors represent the highest emitting paint within the paint booth.
3. 40 CFR Part 63 Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations. The facility is exempt from this subpart because the surface coating operation does not include any of the target HAPs.

**EP 25 (Monorail Wheelabrator #1), EP 26 (Swing Table Wheelabrator #2)**

<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	BAAQMD hand book for Abrasive Blasting	Fabric Filters, 95.62% C.E., Manufacturer's guarantee
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Weekly Stack Visual Observation

**Initial Construction Date:** 1/1979

**Process Description:**

The Monorail Wheelabrator #1 is used to blast metal parts free of rust before they enter the Main Line Paint Booth.

The Swing Table Wheelabrator is used to clean small parts free of rust before they enter the Small Parts Wash Tank.

Both blasting machines are exhausted to fabric filter baghouse with 95.62% control efficiency.

**Applicable Regulation:**

**401 KAR 59:010**, New process operations.

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

**Comments:**

PM emission factor for the abrasive cleaning of metal parts obtained from the BAAQMD handbok for unabated confined abrasive blasting using shot.

<b>EP 30 (Mast Powder Coat System), EP 31 (Mast Powder Coat Dry off Oven), EP 32 (Mast Powder Coat Cure Oven), EP 33 (Mast Powder Coat Pretreat Wash Burner)</b>				
<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
PM (EP 30)	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42, 1.4	Filters, 99.99% C.E., Manufacturer's guarantee 90% T.E.
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Vents inside building
PM (EP 33)	0.56 lb/MMBtu	401 KAR 59:015, Section 4(1)(a)	AP-42, 1.4	Assumed based upon natural gas combustion
	20% Opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO <sub>2</sub> (EP 33)	3.0 lb/MMBtu	401 KAR 59:015, Section 5(1)(a)1	AP-42, 1.4	Assumed based upon natural gas combustion

**Initial Construction Date :** 6/2003

**Process Description:**

Mast Powder Coating System consists of powder coat paint booth, pretreat wash burner, powder coat dry off oven and powder coat cure oven. Parts enter the system after being cleaned in the Pangborn Shot Blast Machine. The clean parts pass through an oven then to a washing system. After washing, the parts pass through a cure oven. The parts then go to the new Mast Powder Coat Paint Booth.

**Applicable Regulations:**

**401 KAR 59:010**, New process operations.

**401 KAR 59:015**, New indirect heat exchangers. This regulation is applicable to each indirect heat exchanger having a heat input capacity of more than 1,000,000 Btu per hour commenced on or after April 9, 1972. Applies to EP 33.

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

**Comments:**

1. Emission factors represent the highest emitting paint within the paint booth.
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, is not applicable because the source is not primarily engaged in the operations in one of the nine source categories listed in 40 CFR Part 63.11514(a).

<b>EP 30 (Mast Powder Coat System), EP 31 (Mast Powder Coat Dry off Oven), EP 32 (Mast Powder Coat Cure Oven), EP 33 (Mast Powder Coat Pretreat Wash Burner)</b>
3. 40 CFR Part 63 Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Source .The facility has an exemption from this subpart because the surface coating operation does not include any of the target HAPs.

**EP 11 (1-3 Ton Touch Up Paint Booth), EP 37 (4-5 Ton Touch Up Paint Booth), EP 12 (Specialty Touch Up Paint Booth), EP 29 (6-9 Ton Big Truck Touch Up Paint Booth), EP 57 (A&N Paint System Touch Up Booth)**

<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	MSDS	Dry Double Filters, 95% C.E., Manufacturer’s guarantee 50% T.E.
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Weekly Stack Visual Observation
Single HAP	Source wide 9 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAPs	Source wide 22.5 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total
Cobalt	Sourcewide 0.7 lbs/yr	401 KAR 63:020	MSDS	Dry Double Filters, 95% C.E., Manufacturer’s guarantee 50% T.E.
Napthalene	Sourcewide 183/lbs/yr	401 KAR 63:020	MSDS	Monthly emission calculations and a new rolling 12-month total
Ethyl Benzene	Sourcewide 2500 lbs/yr	401 KAR 63:020	MSDS	Monthly emission calculations and a new rolling 12-month total

**Initial Construction Date :** 6/1995 for EP 11, 12, 29 & 37. Proposed 2024 for EP 57

**Process Description:**

There are four touch up paint lines, namely Internal Combustion Lift Truck Touch Up Painting, Electric Lift Truck Touch Up Painting and Big Truck Touch-Up Paint Booth and a new A&N Touch Up Booth.

Internal Combustion Lift Truck painting consists of two spray booths with a common stack. These paint booths are a side draft filter design. The systems are designed for limited finish repair on the internal combustion design lift trucks. Paint application is by hand-held Graco design spray guns. Particulates are removed using a two stage dry filter system. The two paint booths are served by individual exhaust systems

**EP 11 (1-3 Ton Touch Up Paint Booth), EP 37 (4-5 Ton Touch Up Paint Booth),  
 EP 12 (Specialty Touch Up Paint Booth), EP 29 (6-9 Ton Big Truck Touch Up Paint Booth), EP 57  
 (A&N Paint System Touch Up Booth)**

which use two stacks per booth exhausted with fan systems rated at 12,000 CFM each.

Electric Lift Truck Painting consists of two paint booths. These paint booths are a side draft filter design. The systems are designed for limited finish repair on the electrical drive design lift trucks. Paint application is by hand-held GRACO design spray guns. Particulates are removed using a two-stage dry filter system. The two paint booths are served by individual exhaust systems which use two stacks per booth exhausted with fan systems rated at 12,000 CFM each.

The Big Truck Touch-Up Paint Booth utilizes dry filters for particulate control. Paint application is by a hand-held air assisted airless spray gun.

The A&N touch-up booth utilizes two electrostatic applicators.

**Applicable Regulations:**

**401 KAR 59:010**, New process operations.

**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 is precluded since the facility has a source-wide for VOC emissions below a major source threshold and is not located in a county designated non-attainment (except marginal) for ozone.

**401 KAR 63:002, Section 2(4)(rrr)** 40 C.F.R. 63.3880 through 63.3981, Tables 1 through 5, 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 source-wide limits for HAP emissions below a major source threshold.

**Comments:**

Emission factors represent the highest emitting paint within the paint booth.

**EP 01 (Counterweight Paint Booth), EP 03 (Counterweight Final Cure Oven),  
 EP 45 (Counterweight Preheat Oven)**

<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42, 1.4	Two Stage Dry Filter: 99.5% C.E., Manufacturer's guarantee 50% T.E.
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		



<b>EP 01 (Counterweight Paint Booth), EP 03 (Counterweight Final Cure Oven), EP 45 (Counterweight Preheat Oven)</b>				
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Weekly Stack Visual Observation
Single HAP	Source wide 9 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAPs	Source wide 22.5 tpy	To preclude 401 KAR 52:020	MSDS	Monthly emission calculations and a new rolling 12-month total

**Initial Construction Date :** 1/1996

**Process Description:**

Counterweights arrive at the Hyster-Yale facility from an outside supplier and are already covered with a primer coat, so there are no metal cleaning operations associated with this process. Counterweight painting starts with a preheat oven which is utilized only during times when the ambient is cold. Parts then go to one paint booth followed by a flash tunnel directly after the paint booth to allow any volatiles to evaporate prior to going to the cure oven. After leaving the flash tunnel the parts go to a preheat oven directly after the paint booth followed by a flash tunnel to allow for volatiles to evaporate. After leaving the flash tunnel, parts go to a preheat oven and then to a cure oven. The counterweight paint booth is a downward design and uses a dry triple filtration system for particulate control. Paint application is by hand-held Graco design spray guns. The counterweight system also includes an internal recirculating sanding booth which does not emit and is treated as an insignificant source, two hand sanders with filters and a small paint storage room. A new paint formulation removed HAP concern from the counterweight operation.

**Applicable Regulations:**

**401 KAR 59:010**, New process operations.

**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 is precluded since the facility has a source-wide for VOC emissions below a major source threshold and is not located in a county designated non-attainment (except marginal) for ozone.

**401 KAR 63:002, Section 2(4)(rrr)** 40 C.F.R. 63.3880 through 63.3981, Tables 1 through 5, 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 source-wide limits for HAP emissions below a major source threshold.

**Comments:**

Emission factors represent the highest emitting paint within the paint booth.

<b>EP 34 (Pangborn PC4-16 Shot Blast)</b>				
<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	BAAQMD Abrasive Blasting	Two Stage Dry Filter: 95.62% C.E., Manufacturer's guarantee
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Weekly Stack Visual Observation
<b>Initial Construction Date :</b> 6/2003				
<b>Process Description:</b> The Pangborn Shot Blast Machine is used in conjunction with Mast Powder Coating System. Parts are cleaned by the Pangborn Shot Blast Machine before they go through the Mast Powder Coating process. The Pangborn Shot Blast Machine is exhausted to a new baghouse that is located adjacent to the Main Line Wheelabrator Baghouse. After leaving the blasting machine, parts pass through an oven and then to a washing system. The washing system contains two wash tank burners. After being washed, the parts pass through a cure oven. The parts then go to the Mast Powder Coat Paint Booth.				
<b>Applicable Regulation:</b> 401 KAR 59:010, New process operations.  401 KAR 63:020, Potentially hazardous matter or toxic substances.				
<b>Comments:</b> Emission factors for particulate matter is taken from BAAQMD (Bay Area Air Quality Management District) handbook.				

<b>EP 46 ( Gasoline Storage Tank and Dispenser)</b>
<b>Initial Construction Date:</b> 1/2013
<b>Process Description:</b> Tanks used for storing and dispensing gasoline.
<b>Applicable Regulation:</b> 401 KAR 63:002, Section 2(4)(ddddd), 40 C.F.R. 63.11110 to 63.11132, Tables 1 to 3 (Subpart CCCCC), <i>National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities.</i>

**EP 39 (Diesel Engine fire pump at the lake), EP 40 (Diesel Engine fire pump at the tank), EP 41 (Diesel fueled Emergency Generator at the boiler room), EP 42 (Natural Gas Emergency Generator at main shop), EP 43 (Natural gas Emergency Generator at boiler room), EP 44 ( Natural Gas Emergency generator for MIS)**

<b>Emission Point</b>	<b>Description</b>	<b>Capacity</b>	<b>Construction Date</b>
<b>EP 39</b>	CI Diesel Engine for Fire Pump at the Lake	0.28 MMBtu/hr, 111 hp	1971
<b>EP40</b>	CI Diesel Engine for Fire Pump at the Tank	0.44 MMBtu/hr, 174 hp	1978
<b>EP 41</b>	CI Emergency Generator at Boiler Room	0.05 MMBtu/hr, 20 hp	1999
<b>EP 42</b>	SI Emergency Generator at Main Shop	0.05 MMBtu/hr, 20 hp Natural Gas	1999
<b>EP 43</b>	SI Emergency Generator at the Boiler Room	0.20 MMBtu/hr, 80 hp Natural Gas	1999
<b>EP 44</b>	SI Emergency Generator for MIS	0.12 MMBtu/hr, 5 hp Natural Gas	2006

**Initial Construction Date:** Noted above in table

**Process Description:**

Diesel and Natural Gas fueled fire pumps and emergency generators.

**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*

**Comments:**

1. 40 CFR 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines is not applicable since all compression ignition ICE were manufactured and installed before the date of July 11, 2005.
2. 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines is not applicable since all spark ignition ICE were manufactured and installed before the date of July 12, 2006.

<b>EP 48 (Frame Powder Shot Blast Unit)</b>				
<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	BAAQMD Abrasive Blasting	Cartridge Filter, 99% C.E., Manufacturer's guarantee
	Sourcewide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Weekly Stack Visual Observation
<b>Initial Construction Date :</b> 11/2019				
<b>Process Description:</b> The Frame Powder Shot Blast Machine is used in conjunction with Frame Powder Coating System. Parts are cleaned by the Frame Powder Shot Blast Machine. The parts then go through pre-treatment part washer and then dried in an oven prior to entering the powder coating line.				
<b>Applicable Regulation:</b> 401 KAR 59:010, New process operations.				
<b>Comments:</b> Emission factors for particulate matter is taken from BAAQMD (Bay Area Air Quality Management District) handbook.				

<b>EP 49 (Frame Powder Pre-Treatment Part Washer), EP 50 (Frame Powder Dry Oven), EP 51 (Frame Powder Booth-Black), EP 52 (Frame Powder Booth-Yellow), EP 53 (Frame Powder Booth - Gold), EP 54 (Frame Powder Booth Custom/Touch-UP), EP 55 &amp; EP 56 (Frame Powder Cure Oven)</b>				
<b>Pollutant</b>	<b>Emission Limit or Standard</b>	<b>Regulatory Basis for Emission Limit or Standard</b>	<b>Emission Factor Used and Basis</b>	<b>Compliance Method</b>
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	AP-42, 1.4-2	Monthly emission calculations and a new rolling 12-month total
PM (EP 51-EP 54)	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	AP-42, 1.4-2	Cartridge Filter, 99.89% C.E., Manufacturer's guarantee 45% T.E. and 75% T.E.
	Source wide 90 tpy	To preclude 401 KAR 52:020		
	20% Opacity	401 KAR 59:010, Section 3(1)a	N/A	Vents inside building
PM (EP 49)	0.50 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	AP-42, 1.4-2	Assumed based upon natural gas combustion
	20% Opacity	401 KAR 59:015, Section 4(2)	N/A	Assumed based upon natural gas combustion
SO <sub>2</sub> (EP 49)	2.52 lb/MMBtu	401 KAR 59:015, Section 5(1)(a)1	AP-42, 1.4	Assumed based upon natural gas combustion

**EP 49 (Frame Powder Pre-Treatment Part Washer), EP 50 (Frame Powder Dry Oven), EP 51 (Frame Powder Booth-Black), EP 52 (Frame Powder Booth-Yellow), EP 53 (Frame Powder Booth - Gold), EP 54 (Frame Powder Booth Custom/Touch-UP), EP 55 & EP 56 (Frame Powder Cure Oven)**

**Initial Construction Date :** 11/2019

**Process Description:**

The Frame Powder Line consists of an abrasive blasting unit, pre-treatment part washer, dry-off oven, four powder coating spray booths and a cure oven. Parts that are painted in this process are blasted free of rust with steel shot. The parts then go through pre-treatment part washer and then dried in an oven prior to entering the powder coating line. Coating application in EP 51-EP 53 is performed by Encore automatic and Encore HD robot guns. The Frame Powder Custom Touch-up booth (EP 54) employs HD dual manual guns in addition to HD robot guns.

**Applicable Regulation:**

**401 KAR 59:010**, New process operations. Applies to EP 51 – EP 54.

**401 KAR 59:015**, New indirect heat exchangers. This regulation is applicable to each indirect heat exchanger having a heat input capacity of more than 1,000,000 Btu per hour commenced on or after April 9, 1972. Applies to EP 49.

**Comments:**

1. The emission factors represent the highest emitting paint within the paint booth.
2. 40 CFR Part 63 Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations. The facility is exempt from this subpart because the surface coating operation does not include any of the target HAPs.
3. The Frame Powder Coat System exhausts inside the building. No stack is employed.
4. Allowable emissions for the Pre-treatment Part Washer (EP 49) is calculated as per 401 KAR 59:015, Section 3(1) using the sourcewide total rated heat input capacity of all affected facilities which is 15.25 MMBtu/hr.
5. The Pre-treatment Part Washer (EP 49) is an indirect heat exchanger, however it is not a boiler. A burner tube heats the water in the washing tank.
6. The captured powder from emission points EP 51- EP 53 is recycled for reuse.in the powder paint process.
7. The guns used for powder coating in EP 51- EP 54 are Encore Automatic with 45% transfer efficiency and Encore HD robot with 75% transfer efficiency.

**SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)**

**Testing Requirements/Results**

N/A

**SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS**

**Table A - Group Requirements:**

<b>Emission and Operating Limit</b>	<b>Regulation</b>	<b>Emission Unit</b>
90 tpy of VOC emissions	To preclude the applicability of 401 KAR 52:020, <i>Title V Permits</i> , and 401 KAR 59:225, <i>New miscellaneous metal parts and products surface coating operations</i>	Source-wide
90 tpy of particulate matter (PM/PM <sub>10</sub> ) 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
Cobalt at 0.7 lbs/yr of emissions	401 KAR 63:020	Source-wide
Napthalene at 183 lbs/yr of emissions	401 KAR 63:020	Source-wide
Ethyl benzene at 2500 lbs/yr of emissions	401 KAR 63:020	Source-wide

**Table B - Summary of Applicable Regulations:**

<b>Applicable Regulations</b>	<b>Emission Point</b>
<b>401 KAR 52:030</b> , <i>Federally-enforceable permits for nonmajor sources.</i>	Source-wide
<b>401 KAR 59:010</b> , <i>New process operations</i>	01, 11-17, 21, 25, 26, 29, 30, 34, 37, 48, 51-54 & 57
<b>401 KAR 59:015</b> , <i>New Indirect Heat Exchangers</i>	07, 33 & 49
<b>401 KAR 63:020</b> , <i>Potentially hazardous matter or toxic substances.</i>	03, 11-17, 29, 37 & 57
<b>401 KAR 63:002 Section 2(4)(eeee)</b> , <i>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</i>	39-44
<b>401 KAR 63:002, Section 2(4)(ddddd)</b> , <i>40 C.F.R. 63.11110 to 63.11132, Tables 1 to 3 (Subpart CCCCC), National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities.</i>	46

**Table C - Summary of Precluded Regulations:**

<b>Regulation</b>	<b>Emission Unit</b>
<b>401 KAR 52:020</b> , <i>Title V permits</i>	
<b>401 KAR 59:225</b> , <i>New miscellaneous metal parts and products surface coating operations</i>	

<b>401 KAR 63:002, Section 2(4)(rrr) 40 C.F.R. 63.3880 through 63.3981, Tables 1 through 5, and Appendix A (Subpart MMMM), National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products</b>	
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**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 AERMOD on February 11, 2014 of potentially hazardous matter or toxic substances (Ethyl benzene, Napthalene, Cobalt) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. The results of the toxics modeling indicates that concentration of toxics at the Hyster-Yale facility property line for naphthalene and ethyl benzene to be above the hazardous level. The Division set annual limits at 0.7 pounds of cobalt per year, naphthalene at 183 pounds per year and limits for ethyl benzene at 2500 pounds per year.

**Single Source Determination**

N/A



**SECTION 5 – PERMITTING HISTORY**

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-04-005	Renewal	55813	10/7/2003	6/25/2004	Permit Renewal	N/A
F-04-005 R1	Sig Revision	APE20040001	9/27/2004	3/2/2005	Removal of Method 5 Testing Requirement for EU01, EU07, EU08, EU09, EU10 and EU11	Syn Minor
F-04-005 R2	Minor Revision	APE20050002	7/20/2005	9/2/2005	Addition of one touch-up paint booth, EU14	Syn Minor
F-04-005 R3	Minor Revision	APE20070001	10/15/2007	11/29/2007	Addition of EP37 to EU07, EP12 changed to “Specialty Touch Up Booth”, EP11 changed to “1-3 Ton Touch Up Booth”	Syn Minor
F-09-015	Renewal	APE20080001	12/10/2008	6/22/2009	Permit Renewal	N/A
F-09-015 R1	Minor Revision	APE20100001	8/6/2010	8/27/2010	Description correction of EP-01 and removal of EP-02 from insignificant activities (both EP are part of EU-09)	N/A
F-09-015 R2	Minor Revision	APE20110001	4/5/2011	4/26/2011	Addition of 3 diesel engines and insignificant activities; minor changes to emission point descriptions	N/A
F-09-015 R3	Minor Revision	APE20130004	8/15/2013	9/13/2013	Addition of 2 oven and the removal of 1 oven and updating an emission points.	N/A
F-14-011	Renewal	APE20130006	11/4/2013	6/9/2014	Renewal	N/A
F-14-011 R1	Admin. Revision	APE20160001	2/17/2016	2/17/2016	Administrative Revision (Name Change)	N/A
F-18-056	Renewal	APE20180002	12/12/2018	5/5/2019	Permit Renewal	N/A
F-18-056 R1	Minor Revision	APE20190003	11/1/2019	3/15/2020	Addition of EU 23, Frame Powder Line	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 <sub>x</sub>	– Nitrogen Oxides
NSR	– New Source Review
PM	– Particulate Matter
PM <sub>10</sub>	– Particulate Matter equal to or smaller than 10 micrometers
PM <sub>2.5</sub>	– Particulate Matter equal to or smaller than 2.5 micrometers
PSD	– Prevention of Significant Deterioration
PTE	– Potential to Emit
SO <sub>2</sub>	– Sulfur Dioxide
TF	– Total Fluoride (Particulate & Gaseous)
VOC	– Volatile Organic Compounds