

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS

Title V, Construction/Operating
Permit: V-16-025 R2
Central Motor Wheel of America Inc.
Paris, KY 40361
December 28, 2020
Jonathon Hughes, Reviewer

SOURCE ID: 21-017-00025
AGENCY INTEREST: 290
ACTIVITY: APE20200002/APE20200003

SOURCE DESCRIPTION:

Central Motor Wheel of America (CMWA) located at 125 Wheat Drive Paris, Bourbon County, Kentucky operates a manufacturing facility. The facility manufactures steel and aluminum wheels for automobiles and light duty trucks. The primary Standard Industrial Classification are 3714 – Motor Vehicle Parts and Manufacturing and 3363 – Aluminum Die Casting.

CMWA operates under three divisions: CMC Division (Steel), CLA Division (Aluminum) and PROACE Division (Aluminum). CMC manufactures steel wheels utilizing raw steel received from off-site locations. The steel wheels are stamped, bent, welded, cleaned and surface coated prior to shipping offsite. CLA manufactures aluminum wheels from aluminum melt received from an off-site location (for the 067 and 068 lines). After being cast, these rough wheels pass through a machining process where they are deburred, abrasive blasted, and leak tested prior to being cleaned and surface coated before shipping offsite. PROACE manufactures aluminum wheels from aluminum ingots, on-site chips, and on-site off-spec wheels that are melted on site. After being cast, these rough wheels pass through a machining process where they are deburred, abrasive blasted, and leak tested prior to being cleaned and surface coated before shipping offsite. The three manufacturing divisions also include five natural gas fired boilers to provide process heat and 11 back up diesel generators.

CMWA utilizes cyclones, bag houses, scrubbers, mist and dust collectors to control particulate emissions. CLA and PROACE each utilizes a regenerative thermal oxidizer (RTO) to control emissions from paint spraying operations. No control equipment will be utilized for the CMC Division to control VOCs and HAPs from the paint spraying operations. CMC Division Paint Line has elected to apply the emission rate without add-on controls option of 40 CFR 63, Subpart Mmmm.

The potential to emit (as defined in 401 KAR 52:001, Section 1 (46)) of VOC this source is greater than one hundred (100) tons per year, single HAP emission greater than ten (10) tons per year and combined HAPs emission more than twenty five (25) tons per year; therefore the source is a major source under 401 KAR 52:020, *Title V Permits*.

REVISION 2 (SIGNIFICANT REVISION) (APE20200002):

On July 16, 2020 the Division received an application from CMWA to remove subpart RRR requirements from the PROACE Division aluminum melting operation. CMWA indicates that they are considered a die cast facility and are exempt from the requirement. The only materials they melt are clean charge and internal scrap. Customer returns will not be melted in the furnaces since they

contain small amounts of surface coating materials which are not permitted to claim exemption from subpart RRR. CMWA will maintain records of materials melted in the furnaces to demonstrate compliance with the subpart RRR exemption.

Additionally as part of this revision, CMWA requests the following changes:

1. Add (1) 1,000 gallon diesel tank to the PROACE melting department as an insignificant activity.
2. Remove EU 54 and EU 68 (2 hot water boilers).
3. Add 3 additional deburr brush systems (BRS-013, BRS-014 and BRS-015).
4. Change PM control for EP 60, EP 62 and EP 64 from dry filters to water curtains.
5. Add one Henry Filter to the PROACE machining department 13 (LCS-015).
6. Add 8 natural gas burners (2.5 MMBtu/hr total) to the PROACE Division Paint Department.

These activities cumulatively result in facility-wide decreases in emissions of criteria pollutants except for a small increase (<1 tpy) for PM emissions.

REVISION 2 (MINOR REVISION) (APE20200003):

On December 14, 2020 the Division received an application from CMWA to construct an additional natural gas fired boiler (EU 79). This application was deemed complete December 22, 2020. It is combined with the ongoing significant revision as part of revision 2 to V-16-025.

REVISION 1 (SIGNIFICANT REVISION):

On August 7, 2019 the Division received an application from CMWA for the addition of two aluminum melt furnaces as part of a new Melt Department. Units in this department will be subject to 40 CFR Part 63 Subpart RRR for secondary aluminum production. Wheels will be blasted to remove paint and the chips will have coolant removed, however the pre-cleaning of scrap will not meet “clean scrap” definitions and the melt furnaces will be group 1 furnaces.

Supporting insignificant activities have also been added as part of the revision. These include a Dross Press, Ladles Preheaters, Argon gas bubblers, and an aluminum chip shredder.

CMWA requests to retain the existing 249 tpy emission cap for VOC emissions to preclude applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality and will remain a synthetic minor source.

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 59:015, New indirect heat exchangers

401 KAR 59:225, New miscellaneous metal parts and products surface coating operations.

401 KAR 60:005, Section 2(2)(d) 40 C.F.R. 60.40c to 60.48c (Subpart Dc), Standards of Performance for Small Industrial Commercial-Institutional Steam Generating Units, for units less than or equal to 100 MMBtu/hr but greater than or equal to 10 MMBtu/hr commenced after June 9, 1989.

401 KAR 60:005, Section 2(2)(dddd) 40 C.F.R. 60.4200 to 60.4219, Tables 1 to 8 (Subpart III), Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

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

401 KAR 63:002, Section 2(4)(eee) 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

401 KAR 63:002, Section 2(4)(iii) 40 C.F.R. 63.7480 to 63.7575, Tables 1 to 13 (Subpart DDDDD), National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

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

PRECLUDED REGULATIONS:

401 KAR 51:017, Prevention of significant deterioration of air quality, has been precluded since the source has taken a limit of 249 tons per 12 month rolling period on VOC emissions.

NON APPLICABLE REGULATIONS:

401 KAR 63:002, Section 2(4)(ccc), 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3 and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production* is not applicable since CMWA is considered a die casting facility for purposes of this subpart. CMWA melts only clean charge and internal scrap and does not operate any sweat furnaces, thermal chip dryers, scrap dryers, delacquering kilns or decorating kilns.

COMMENTS:

CMC Division (Steel)

RTO-1: Removed from service

EP 04: Emissions from electro-coating, EP04 are calculated by material balance. The carry over efficiency to the electro-coating cure oven EP06 that is used to calculate VOC emissions is 25 percent. The carry over efficiency to the electro-coating cure oven EP06 that is used to calculate PM emissions is 90 percent. VOC and HAP emissions from this emission point are uncontrolled.

EP 07: Emissions from the topcoat booth, EP07 are calculated by material balance. The booth is equipped with four bell/turbine atomization guns. An overall transfer efficiency of 95 percent is used in the calculation of PM emissions. The booth is equipped with three stages of filters for control of PM. A control efficiency of 99 percent is used in the calculation of PM emissions. The carry over efficiency to the paint cure oven, EP08 used to calculate VOC emissions is 25 percent. VOC and HAP emissions from this emission point are uncontrolled.

EP 09: Removed from service

CLA Division (Aluminum): 067 Paint Line

The Color Coat Booth, EP31 is equipped with one bell/turbine atomizing gun, the Edge Clear Coat Booth, EP33 is equipped with one bell/turbine atomizing gun and the Top Clear Booth, EP34 is equipped with one bell/turbine atomizing gun. An overall transfer efficiency of 95 percent is used in the calculation of PM. A control efficiency of 98 percent is used in calculating PM emissions. Each booth is equipped with filter blankets for control of PM emissions. Items painted in the Color Coat Booth are cured in the Color Bake Oven, EP32. Items painted in the Edge Clear Coat Booth and Top

Clear Booth are cured in the Clear Bake Oven, EP35. The booths and cure ovens are in a Permanent Total Enclosure (PTE) and that 100 percent of VOC emissions are captured and vented to RTO #2. The paint line is subject to 401 KAR 59:225 for VOC emissions. Above mentioned RTO will be utilized to control not less than 85% of total VOC input. Over all destruction efficiency of the RTO was determined to be 96.8 % during the October 2018 Test. Also, the paint line will comply with the emission standard of 40 CFR 63, Subpart M MMM by add-on control option.

CLA Division (Aluminum): 068 Paint Line

The Black Coat Booth, EP39 is equipped with two bell/turbine atomizing guns, the Color Coat Booth, EP 41 is equipped with two bell/turbine atomizing guns, and the Clear Coat Booth, EP 42 is equipped with two bell/turbine atomizing guns. An overall transfer efficiency of 95 percent is used in the calculation of PM emissions. Each booth is equipped with filter blankets for control of PM emissions. A control efficiency of 98 percent is used in calculating PM emissions. Items painted in the Black Coat Booth are cured in the Black Coat Oven, EP40. Items painted in the Color Coat Booth and Clear Coat Booth are cured in the Color & Clear Coat Oven, EP43. On January 6, 2005, the Black Coat Booth, Color Coat Booth and Clear Coat Booth enclosures (including flash off areas and cure ovens) were verified to be Permanent Total Enclosures. Therefore, the capture efficiency of VOC emissions is 100 percent. The paint line is subject to 401 KAR 59:225 for VOC emissions. Above mentioned RTO will be utilized to control not less than 85% of total VOC input. Over all destruction efficiency of the RTO was determined to be 96.8 % during the October 2018 Test. Also, the paint line will comply with the emission standard of 40 CFR 63, Subpart M MMM by add-on control option.

Aluminum Division: PROACE Division (Aluminum) Paint Line

The Black Coat Booth, EP60 is equipped with three bell/turbine atomizing guns, the Color Coat Booth, EP 62 is equipped with two bell/turbine atomizing guns, and the Clear Coat Booth, EP 64 is equipped with two bell/turbine atomizing guns. An overall transfer efficiency of 95 percent is used in the calculation of PM emissions. Each booth is equipped with a water curtain for control of PM emissions. A control efficiency of 95 percent is used in calculating PM emissions. Items painted in the Black Coat Booth are cured in the Black Coat Oven, EP61. Items painted in the Color Coat Booth are cured in the Color Coat Oven, EP63. Items painted in the Clear Coat Booth are cured in the Clear Coat Oven, EP65. The paint line is subject to 401 KAR 59:225 for VOC emissions. RTO #3 will be utilized to control not less than 85% of total VOC input. Capture efficiency shall be tested within 180 days of startup. Overall destruction efficiency of RTO #3 shall tested within 180 days of startup, then every 5 years thereafter. Also, the paint line will comply with the emission standard of 40 CFR 63, Subpart M MMM by add-on control option.

Applicable Regulations:

CMC Division (Steel)

Emission Unit Number	Description/Process Equipment	Date Installed	Control Equipment	Applicable Regulations
04 (B-5)	E-Coat Painting	12/1987		401 KAR 59:225 40 CFR 63 Subpart M MMM
06 (B-6)	E-Coat Cure Oven / 5.1 MM BTU/hr Gas Fired Oven	11/1987		401 KAR 59:225 Subpart M MMM

07 (B-8)	Top Coat Booth // 2 bell/turbine atomizing guns	01/2013	3 Stage Over Spray Filters	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
08 (B-9)	Paint Cure Oven / 5.1 MM BTU/hr Gas Fired Oven	12/1987		401 KAR 59:225 40 CFR 63 Subpart Mmmm

CLA Division (Aluminum): 067 Paint Line

Emission Point Number	Description/Process Equipment	Date Installed	Control Equipment	Applicable Regulations
31 (LC1)	Color Coat Booth / 1 bell /turbine atomizing gun	10/1998	Over Spray Filters / RTO No. 2	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
32 (L5A)	Color Bake Oven / 5.0 MM BTU/hr NG Fired Oven	10/1998	RTO No. 2	401 KAR 59:225 40 CFR 63 Subpart Mmmm
33 (LC2)	Edge Clear Coat Booth / 1 bell/turbine atomizing gun	09/2012	Over Spray Filters / RTO No. 2	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
34 (LC3)	Top Clear Booth / 1 bell/turbine atomizing gun	10/1998	Over Spray Filters / RTO No. 2	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
35 (L9A)	Clear Bake Oven / 6.0 MM BTU/hr NG Fired Oven	10/1998	RTO No. 2	401 KAR 59:225 40 CFR 63 Subpart Mmmm

CLA Division (Aluminum): 068 Paint Line

Emission Point Number	Description/Process Equipment	Date Installed	Control Equipment	Applicable Regulations
39 (LCE, LCF & LCG)	Black Coat Booth / 2 bell / turbine atomizing guns	01/2003	Over Spray Filters/ RTO No. 2	4401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
40 (BCO)	Black Coat Oven / 2.0 MM BTU/hr NG fired	01/2003	RTO No. 2	401 KAR 59:225 40 CFR 63 Subpart Mmmm
41 (LCH, LCI & LCJ)	Color Coat Booth / 2 bell /turbine atomizing gun	07/2011	Over Spray Filters/ RTO No. 2	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
42 (LCK & LCL)	Clear Coat Booth / 2 bell/turbine atomizing guns	01/2003	Over Spray Filters/ RTO No. 2	401 KAR 59:010 401 KAR 59:225 40 CFR 63 Subpart Mmmm
43 (C&CCO)	Color & Clear Coat Oven / 4.0 MM BTU/hr NG fired	01/2003	RTO No. 2	401 KAR 59:225 40 CFR 63 Subpart Mmmm
70	Pretreatment Dry-Off Oven/ 1.6 MMBTU/hr	01/2016		

PROACE Division (Aluminum) Paint Line

Emission Point Number	Description/Process Equipment	Date Installed	Control Equipment	Applicable Regulations
57	Dry-Off Oven, 2.0 MMBtu/hr NG fired	3/2020		
58	Aluminum Powder Paint Operation	3/2020		401 KAR 59:010
59	Powder Coat Oven, 3.5 MMBtu/hr NG fired	3/2020		
60	Black Coat Booth, 2 bell/turbine atomization guns	3/2020	Water Curtain/ RTO No. 3	401 KAR 59:010 & 59:225, 40 CFR 63 Subpart MMMM
61	Black Coat Oven, 4.0 MMBtu/hr NG fired	3/2020	RTO No. 3	401 KAR 59:225, 40 CFR 63 Subpart MMMM
62	Color Coat Booth, 2 bell/turbine atomization guns	3/2020	Water Curtain/ RTO No. 3	401 KAR 59:010 & 59:225, 40 CFR 63 Subpart MMMM
63	Color Coat Oven, 2.0 MMBtu/hr NG fired	3/2020	RTO No. 3	401 KAR 59:225, 40 CFR 63 Subpart MMMM
64	Clear Coat Booth, 2 bell/turbine atomization guns	3/2020	Water Curtain/ RTO No. 3	401 KAR 59:010 & 59:225, 40 CFR 63 Subpart MMMM
65	Clear Coat Oven, 2.0 MMBtu/hr NG fired	3/2020	RTO No. 3	401 KAR 59:225, 40 CFR 63 Subpart MMMM
71	Aluminum Paint Mix Room, Flushing and Cleaning Tanks	3/2020		401 KAR 59:225 40 CFR 63 Subpart MMMM
72	Dry-Off Oven #2, 2.0 MMBtu/hr NG fired	3/2020		

Aluminum Melting Furnaces/Chip Shredder

Emission Point Number	Description/Process Equipment	Date Installed	Control Equipment	Applicable Regulations
73	Aluminum Melting Furnace #1	3/2020	None	401 KAR 59:010 401 KAR 63:020
74	Aluminum Melting Furnace #2	3/2020	None	401 KAR 59:010 401 KAR 63:020
75	Melting Furnace Dust Collector (Baghouse #1)	3/2020	N/A	401 KAR 59:010
78	Aluminum Chip Shredder	3/2020	Electrostatic Precipitator/ Mist Eliminator	401 KAR 59:010 401 KAR 63:020

EMISSION AND OPERATING CAPS DESCRIPTION:

The facility will be subject to an emission cap of 249 tons per rolling twelve-month period for VOC emissions. This emission cap will preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality.

PERIODIC MONITORING:

Steel Division

Emission Point Number	Description	Monitoring Requirements
51 (E-51)	Boiler	Monitor source wide natural gas usage monthly.
04 (B-5)	E-Coat Painting	Monitor paint usage monthly.
07 (B-8)	Top Coat Booth	Monitor paint usage monthly, weekly qualitative visual observations of opacity, take daily pressure drop readings and conduct daily visual inspection of filters.
06 (B-6) 08 (B-9)	E-Coat Cure Oven/5.1 MM BTU/hr Gas Fired Oven Paint Cure Oven /5.1 MM BTU/hr Gas Fired Oven	Monitor source wide natural gas usage monthly.
10 (EB-1)	Boiler (B1-A)	Monitor source wide natural gas usage monthly.

Aluminum Division:

Emission Point Number	Description	Monitoring Requirements
24 (SB-001) 25 (BRS-001 – BRS-009) 44 (SB-004) 55 (BRS-010 – BRS-012) 56 (SB-005)	Shot Blasters Brush Deburrs Shot Blaster Brush Deburrs Shot Blaster	Monitor shot usage. Weekly pressure change readings of the dust collection systems.
31 (LC1) 33 (LC2) 34 (LC3)	Color Coat Booth Edge Clear Coat Booth Top Clear Booth	Monitor paint usage monthly, weekly qualitative visual observations of opacity, take daily pressure drop readings and conduct daily visual inspection of filters.
32 (L5A) 35 (L9A)	Color Bake Oven/5.0 MM BTU/hr NG Fired Oven Clear Bake Oven/6.0 MM BTU/hr NG Fired Oven	Monitor source wide natural gas usage monthly. Monitor RTO burner temperature every 15 minutes. Monitor RTO Burner Set-point temperature every 15 minutes. Determine RTO destruction efficiency once every 5 years. Monitor By-pass damper position weekly.
36 (L7A)	Powder Bake Oven/6.0 MM BTU/hr NG Fired Oven	Monitor source wide natural gas usage monthly.
37 (DO) 38 (PCO)	Paint Line Dry-off Oven / 2.0 MM BTU/hr NG fired Powder Coat Oven /3.5 MM BTU/hr NG fired	Monitor source wide natural gas usage monthly.
39 (LCE, LCF & LCG) 41 (LCH, LCI & LCJ) 42 (LCK & LCL)	Black Coat Booth Color Coat Booth Clear Coat Booth	Monitor paint usage monthly, weekly qualitative visual observations of opacity, take daily pressure drop readings and conduct daily visual inspection of filters. All applicable requirements of §63.3968 of Subpart M MMM must be met.
40 (BCO) 43 (C&CCO)	Black Coat Oven / 2.0 MM BTU/hr NG fired Color & Clear Coat Oven/ 4.0 MM BTU/hr NG fired	Monitor source wide natural gas usage monthly. All applicable requirements of §63.3968 of Subpart M MMM must be met.
57, 72 59	Dry-Off Oven, 2.0 MMBtu/hr NG Fired Powder Coat Oven, 3.5 MMBtu/hr NG Fired	Monitor source wide natural gas usage monthly.

70	Dry-Off Oven, 1.6 MMBtu/hr NG Fired	
60 62 64	Black Coat Booth Color Coat Booth Clear Coat Booth	Monitor paint usage monthly, weekly qualitative visual observations of opacity, monitor operation of water curtain. All applicable requirements of §63.3968 of Subpart M MMM must be met.
61 63 65	Black Coat Oven/4.0 MM BTU/hr NG Fired Color Coat Oven/2.0 MM BTU/hr NG Fired Clear Coat Oven/2.0 MMBTU/hr NG Fired	Monitor source wide natural gas usage monthly. Monitor RTO burner temperature every 15 minutes. Monitor RTO Burner Set-point temperature every 15 minutes. Determine RTO destruction efficiency once every 5 years. Monitor By-pass damper position weekly.
69	068 Line Boiler	Monitor source wide natural gas usage monthly.
73 74	Alum Melt Furnace #1 Alum Melt Furnace #2	Monitor opacity, total hours of operation & natural gas usage
79	Bryan EB240 Boiler	Monitor source wide natural gas usage monthly.