

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

Title V, Construction / Operating

Permit: V-23-022

CC Metals and Alloys, LLC

Calvert City, KY 42029

3/25/2024

Vahid Bakhtiari, Reviewer

SOURCE ID: 21-157-00002

AGENCY INTEREST: 2930

ACTIVITY: APE20220007; APE20230002

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## SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3313, Electrometallurgical Ferroalloy Product Manufacturing

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: Marshall

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): HCl, Mn, P

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

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

### Description of Facility:

CC Metals and Alloys, LLC (CCMA) currently produces ferrosilicon (FeSi) and various ferroalloy specialty products in Calvert City, Kentucky using Electric Arc Furnaces (EAFs). Raw charge materials include various ores, gravel, coal, coke, scrap iron, and woodchips are measured, combined, and introduced to the top of the furnaces during the melting operation as required for producing products.

The molten material is then poured into casting beds. CCMA furnaces are the “open” type, but are equipped with the panels that provide some heat barrier and direct the emissions to the furnace hoods and baghouses. Various alloy materials that are used to make specialty products are produced by adding the appropriate materials in the “tapping” ladles. Primary emission units include three submerged electric arc furnaces with associated tapping and lading operation; stirring operation; crushing and sizing operations; casting beds operation; and material and storage operation.

## SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: V-23-022

Activities: APE20220007; APE20230002

Received: 10/28/2022; 12/19/2023

Application Complete Date(s): 5/30/2023; 2/16/2024

Permit Action:  Initial  Renewal  Significant Rev  Minor Rev  Administrative

Construction/Modification Requested?  Yes  No NSR Applicable?  Yes  No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action  Yes  No

- *APE20220001 – Off Permit Change: Addition of two induction furnaces and cast beds*

### Description of Action:

CCMA submitted an application on October 28, 2022 and an addendum on September 19, 2023 to renew their existing Title V operating permit V-17-038, which expired on May 1, 2023. With this permit renewal, the following changes have been made:

- Added new screening/sorting equipment for FeSi product as EP 035. The equipment will screen/sort 1/2-inch diameter finished FeSi product. There is no control device for this equipment and all emissions will be fugitive. Emissions from EP 035 will include PM emissions and associated metal HAPs. The screening operation uses a non-emergency diesel combustion engine with a 73.76 HP. Therefore, the requirements of 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII are applicable to the associated engine. The screening equipment has been added as emission point 035 (EP 035) in Section B of the permit. Emissions increases from the addition of this unit are below all SERs that would trigger PSD review and BACT analysis.
- Added one emergency diesel generator and one non-emergency diesel air compressor. The diesel generator and air compressor are constructed after June 12, 2006 and are regulated under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ. The emergency diesel generator and non-emergency diesel air compressor have been added to Section B of the permit as EP 036 and EP 037, respectively. Emissions increases from the addition of these two emission points are below all SERs that would trigger PSD review and BACT analysis.
- On August 10, 2022, updates to 40 CFR 60, Subparts IIII and 40 CFR 63, Subpart ZZZZ to remove the vacated emergency demand response provisions were published in the federal register. Accordingly, the existing Vacatur language for emergency demand response in 40 CFR 60, Subparts IIII and 40 CFR 63, Subpart ZZZZ for emergency engines has been removed from the permit and Statement of Basis, and the regulatory language in the permit has been updated to reflect the published changes.
- On December 14, 2022, pursuant to 40 CFR 64.8, as part of the permit renewal application and to determine additional measures to assure compliance with the applicable emission standards or limits, CCMA was required to develop and implement a Quality Improvement Plan (QIP) for Furnaces #15/#16 (EP 010 & EP 011) building including the control device and associated capture system. CCMA was asked to use acceptable procedures in responding to an excursion or exceedance and to include procedures for enhancing their current monitoring approaches. On January 19, 2023, CCMA submitted their QIP and proposed improvements to their CAM plan which included improved monitoring procedures and procedures to improve the quality of control performance. However, on February 24, 2023 and pursuant to 40 CFR 64.8(d), the Division requested additional information. The Division approved the revised QIP that was

submitted on April 12, 2023. CCMA shall comply with all the revised QIP requirements as approved by the Division.

- On January 24, 2023, as part of the Title V renewal process, CCMA was required to submit an updated CAM Plan pursuant to 40 CFR 64. The CAM plan was revised based on the approved QIP by the Division to reflect the changes/improvements which also included additional indicators and modification of existing indicator ranges. The updated CAM Plan was added to the permit as Appendix A.
- Removed EP 023a (Noduloy Casting Bed) from the permit. This operation has been removed from the facility. Therefore, it was deleted from the permit.
- Furnace #6 Casting Bed (EP 023) and EP 23b (Furnace #15/16 Casting Beds) are considered fugitive emissions with 0% capture efficiency and 0% control efficiency. Permit and POC table have been updated to reflect these emission points as uncontrolled units.
- The Division updated and made formatting changes throughout the permit to be consistent and clear. No other changes have been requested by CCMA.

On December 18, 2023, CCMA submitted a minor permit revision application requesting to install three new Silica Fume Dust Storage Silos. The three new silica fume dust storage silos are controlled by bin vents to store furnaces baghouse (BH) dust as product prior to sale or distribution (the Project). The following is a list of the new emission points in this Project: 6 BH Silo (EP 038), 15/16 BH North Silo (EP 039), and 15/16 BH South Silo (EP 040). The Division deemed the minor revision application complete on February 16, 2024 and is including the requested changes in this renewal permit.

Because CCMA is a major source for the purposes of 401 KAR 51:017, PSD, the Project at the facility must be compared to the Significant Emission Rates (SER) to determine if the Project triggers PSD applicability and a Best Available Control Technology (BACT) analysis. The total emissions increases from the Project do not exceed the SER as defined in 401 KAR 51:001, Section 1(218)(a). Therefore, the Project is not a major modification under PSD/NSR. Summary of Project Emissions Increase (PEI) is provided in Table below. Based on these totals, the Project is not subject to the requirements of 401 KAR 51:017, Sections 8-14.

Project Emissions Increases

Emission Point	PM (tpy)	PM <sub>10</sub> (tpy)	PM <sub>2.5</sub> (tpy)	Lead (tpy)
6 BH Silo (EP 038)	9.39E-02	5.91E-02	5.35E-02	5.82E-06
15/16 BH North Silo (EP 039)	5.77E-01	3.63E-01	3.29E-01	3.58E-05
15/16 BH South Silo (EP 040)	5.77E-01	3.63E-01	3.29E-01	3.58E-05
PEI	1.25	7.86E-01	7.11E-01	7.73E-05
SER	25	15	10	0.6
PSD	No	No	No	No

V-23-022 Emission Summary		
Pollutant	<sup>(1)</sup> 2023 Actual (tpy)	<sup>(2)</sup> PTE V-23-022 (tpy)
CO	142	333
NO <sub>x</sub>	271	591

V-23-022 Emission Summary		
Pollutant	<sup>(1)</sup> 2023 Actual (tpy)	<sup>(2)</sup> PTE V-23-022 (tpy)
PT	844	1,687
PM <sub>10</sub>	565	1,188
PM <sub>2.5</sub>	196	335
SO <sub>2</sub>	512	1,067
VOC	0.001	7.33
Lead	0.05	0.10
Greenhouse Gases (GHGs)		
Carbon Dioxide	1.24	12,675
Methane	0.001	0.31
Nitrous Oxide	0.004	0.04
CO2 Equivalent (CO2e)	2.37	12,696
Hazardous Air Pollutants (HAPs)		
Arsenic, Total (as As)	0.04	0.09
Chromium, Total (as Cr)	0.03	0.06
Formaldehyde	3.67	7.63
Hexane; N-Hexane	---	0.14
Hydrochloric Acid	36.01	75.85
Manganese, Total (as Mn)	0.39	0.80
Phosphorus (as P), Total	0.83	1.70
Combined HAPs	41.03	86.34

(1) Based on 2023 EIS Report.

(2) Includes controlled emissions based on federally enforceable control devices and operating limitations.

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

<b>Emission Group A – Furnaces Operations<sup>(1)</sup>:                      EP 002 (Furnace #6), EP 010 (Furnace #15), EP 011 (Furnace #16), and EP 029 (Dust Handling Equipment)</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>
Opacity	Control devices for each of Furnaces #6, #15 and #16	3%	401 KAR 61:070, Section 3(1)(a)	EPA ICR Testing, Engineering Estimate	Method 9
		5% of accumulated occurrences in a 60-minute observation period	40 CFR 63.11526(a)		Qualitative visual observations for a minimum of six minutes during tapping, and if any visible emissions are observed conduct a Method 22.
	Furnace buildings for Furnaces #6 and #15/ #16	15% for Smelting/Melting with no auxiliary operations	401 KAR 61:070, Section 3(1)(b)(1)		Method 9
		20 percent (6-minute average)	40 CFR 63.11526(b)		Visual observations for a minimum of six minutes. If any visible emissions are observed conduct a Method 9.
		a. Less than 20% for metallurgical treatment with no auxiliary operations. b. Less than 40% if metallurgical treatment is occurring. c. Less than 40% for Pouring d. Less than 25% for Tapping	401 KAR 61:070, Section 3(1)(b)(2)-(5)		Method 9

**Emission Group A – Furnaces Operations<sup>(1)</sup>:  
 EP 002 (Furnace #6), EP 010 (Furnace #15), EP 011 (Furnace #16), and EP 029 (Dust Handling Equipment)**

	Dust Handling Equipment (EP 029)	15%	401 KAR 61:070, Section 3(2)		Method 9
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**Initial Construction and/or Modification Date:**

EP 002: 1/1/1972; EP 010 & EP 011: 1/1/1965; EP 029: 1/1/1972

**Process Description:**

**EP 002 Furnace #6**

**Description:** Ferrosilicon (FeSi) production in Electric Arc Furnace (EAF) #6, including associated tapping/ladling operations and stirring operations in which alloys are added. The EAF operations are contained within the Furnace #6 building.

Maximum Rated Capacity: 16,500 tons/yr

Combined Limited Yearly Capacity: 95,700 tons/yr\*

Transformer Rating: 20 MVA

Control Equipment: Furnace #6 Baghouse with Dispersed Discharge (Monovent)

Capture Device: Primary capture devices are the furnace hood, tapping hood, and stirring hood

**EP 010 Furnace #15**

**Description:** Ferrosilicon (FeSi) production in EAF #15, including associated tapping/ladling operations and stirring operations in which alloys are added. The EAF operations are contained within the furnace #15/#16 building. Emissions that are not captured by the furnace #15/#16 baghouse from the furnace #15/#16 building are routed to the furnace #6 baghouse through duct work.

Maximum Rated Capacity: 39,600 tons/yr

Combined Limited Yearly Capacity: 95,700 tons/yr\*

Transformer Rating: 66 MVA

Control Equipment: Furnace #15/#16 Baghouse with Dispersed Discharge (Monovent)

Capture Device: Primary capture devices are the furnace hood, tapping hood, and stirring hood.

Secondary capture device is the building ventilation ducted to the furnace #6 baghouse.

**EP 011 Furnace #16**

**Description:** Ferrosilicon (FeSi) production in EAF #16, including associated tapping/ladling operations and stirring operations in which alloys are added. The EAF operations are contained within the furnace #15/#16 building. Emissions that are not captured by the furnace #15/#16 baghouse from the furnace #15/#16 building are routed to the furnace #6 baghouse through ductwork.

Maximum Rated Capacity: 39,600 tons/yr

Combined Limited Yearly Capacity: 95,700 tons/yr\*

Transformer Rating: 66 MVA

Control Equipment: Furnace #15/#16 Baghouse with Dispersed Discharge (Monovent)

Capture Device: Primary capture devices are the furnace hood, tapping hood, and stirring hood.

Secondary capture device is the building ventilation ducted to the furnace #6 baghouse

\*Note: Combined self-imposed limit on EP 002, EP 010, and EP 011 to comply with 401 KAR 63:020.

**Emission Group A – Furnaces Operations<sup>(1)</sup>:  
EP 002 (Furnace #6), EP 010 (Furnace #15), EP 011 (Furnace #16), and EP 029 (Dust Handling Equipment)**

**EP 029 Dust Handling Equipment and Loading**

**Description:** Dust generated from the furnace operations is collected by the baghouses. The dust collected by dust handling equipment is then transferred into the storage silo. The collected dust is conveyed to the on-site covered storage area by truck.

Maximum Capacity: 5,441 tons/yr (Furnace #6)  
23,850 tons/yr (Furnaces #15/#16)

Control Equipment: None

**Applicable Regulations:**

**401 KAR 61:070**, *Existing Ferroalloy Production Facilities*, applicable to submerged electric arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust-handling equipment.

**401 KAR 63:002, Section 2(4)(www)**, **40 C.F.R. 63.11524 to 63.11532, Table 1 (Subpart YYYYYY)**, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloy Production Facilities*. See comments.

**40 CFR 64, Compliance Assurance Monitoring (CAM)**, applies to EP 002, EP 010, and EP 011 with respect to PM.

**State-Origin Requirement:**

**401 KAR 63:020**, *Potentially hazardous matter or toxic substances*. This regulation is applicable to each affected facility which emits or may potentially emit hazardous matter or toxic substances. Applies to Arsenic, Manganese, Mercury, and Nickel.

**Non-applicable Regulations:**

**401 KAR 59:105**, *New process gas streams*, does not apply to the furnace #6 as the furnace was not commenced on or after June 6, 1979.

**401 KAR 60:005, Section 2(2)(hh)**, **40 C.F.R. 60.260 to 60.266 (Subpart Z)**, *Standards of Performance for Ferroalloy Production Facilities*, is not applicable because the furnaces were not constructed or modified after October 21, 1974.

**401 KAR 61:020**, *Existing process operations*, does not apply to the furnace #6 as this furnace is subject to 401 KAR 61:070.

**401 KAR 61:035**, *Existing process gas streams*, does not apply to the furnace #6 as the facility is not located in a county classified as Class I or VA with respect to sulfur dioxide in 401 KAR 50:025.

**401 KAR 63:002, Section 2(4)(ggg)**, **40 C.F.R. 63.1620 to 63.1661, Table 1 (Subpart XXX)**, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ferroalloys Production: Ferromanganese and Silicomanganese*, applies to all new and existing ferromanganese and silicomanganese production facilities that manufacture ferromanganese or silicomanganese and are major sources or are co-located at major sources of hazardous air pollutant emissions. This regulation is not applicable to furnaces #6 & #15/#16 as ferromanganese or silicomanganese will not be produced at these furnaces. Pursuant to 40 CFR 63.1620(a) and (b), the permittee must follow the requirements of 40 CFR 63, Subpart XXX when the permittee produces silicomanganese (SiMn) product in any of these furnaces.

**Comments:**

Particulate matter emissions from furnace #6 operations are controlled by a baghouse with dispersed



**Emission Group A – Furnaces Operations<sup>(1)</sup>:  
EP 002 (Furnace #6), EP 010 (Furnace #15), EP 011 (Furnace #16), and EP 029 (Dust Handling  
Equipment)**

discharge (Monovent). Particulate matter emissions from furnaces #15 and #16 operations are controlled by another common baghouse with dispersed discharge (Monovent). Primary capture devices for each of the furnaces are the furnace hood, tapping hood, and stirring hood. Emissions from furnace building #15/#16 are routed to furnace baghouse #6 through duct work.

The control efficiency for furnace #15/#16 baghouse is 99.83% and for furnace #6 baghouse is 98%, respectively. There is no control for gaseous emissions SO<sub>2</sub>, NO<sub>x</sub>, and CO from furnaces #6, #15, and #16. All capture efficiencies for furnace #15/#16 operations is assumed to be 90% for Emission Inventory System (EIS) purposes and Pollutants of Concern (POC) table calculations.

PM emissions for furnace #6 and #15/#16 operations are calculated from stack testing performed on May 26, 2010 by FBT Environmental at the facility as part of EPA's ICR to the Ferroalloy's Industry. PM emissions for Tapping/Ladle and Stirring are calculated using emission factors from AP-42, Table 12.5-1. PM emissions for Fume Dust Loading are calculated using emission factor based on site specific estimate/engineering calculation of 0.05% fugitive dust (equal to 1 lb/ton). PM<sub>10</sub> and PM<sub>2.5</sub> emissions for furnace #6 and #15/#16 operations, Tapping/Ladle, and Stirring are calculated using emission factor from AP-42, Table 12.4-5. The emission factor for PM<sub>10</sub> and PM<sub>2.5</sub> are 63% and 57% of the PM emission factor, respectively. HAP emissions for #6 and #15/#16 operations, Tapping/Ladle, Stirring and Fume Dust Loading are calculated using metal content based on testing data of fume dust and product dust. NO<sub>x</sub> and SO<sub>2</sub> emissions are calculated using emission factors from CCMA's Clean Air Engineering test data conducted on 1/21/09. CO emissions are calculated using emission factor derived from FBT Environmental testing conducted on 5/16/2010.

Regarding the applicability of 40 CFR 63, Subpart YYYYYY: The Division issued a draft Title V permit V-10-005 on July 2, 2010. On July 23, 2010, CCMA submitted a letter to the Division indicating that they had conducted measurements of HCL at the direction of EPA's Information Collection Center (ICR). These measurements showed that HCL emissions were greater than 10 tons annually. Thus, CCMA became a major source of HAPs and was no longer an area source. CCMA maintained that the provisions of 40 CFR Part 63, Subpart YYYYYY no longer applied to the facility. Comments on the draft Title V permit were also received from CCMA on August 13, 2010 in which CCMA requested to remove the provisions of Subpart YYYYYY from the Draft Permit.

However, during the issuance of permit V-12-009, the Division reevaluated the applicability of 40 CFR 63, Subpart YYYYYY to CCMA with the application submitted on December 29, 2010 and additional information submitted on November 15, 2011. After reconsidering, the Division determined that HCl and Phosphorous are not the subject pollutants according to preamble of Subpart YYYYYY. The subject pollutants for Subpart YYYYYY are metal HAPs (chromium compounds, manganese compounds, and nickel compounds) that are referenced in preamble published in 73 FR 78638. CCMA is a minor source for these pollutants according to the information submitted in the November 15, 2011 application. The Division has determined this source to be a minor source for the subject HAPs and has therefore re-applied Subpart YYYYYY beginning with permit V-12-009.

Note (1): Regarding furnace operation: On February 12, 2013, according to 5. Specific Recordkeeping Requirements (c) of permit V-12-009, the permittee has clarified activities occurring during the different operations and their associated opacity standards (EIS Activity: CRE20130001).



**Emission Group B – Materials Handling & Casting:**

**EP 019 (Crushing and Sizing Plants #1 and #3), EP 020 (Crushing and Sizing Plants #4 and #8), EP 021 (Crushing and Sizing Plant #6), EP 023 (Furnace #6 Casting Bed, EP 023b (Furnaces #15 and #16 Casting Bed), EP 025 (Noduloy Crushing and Sizing Plant)**

**EP 021 Crushing & Sizing Plant #6**

**Description:** Consists of four crushers, three screens, seven feeders/hoppers, and seven belt conveyors in an enclosed building

Rated Capacity: 60,000 tons/yr  
Combined Limited Yearly Capacity: 180,000 tons/yr\*  
Control Equipment: Crushing/Sizing Plant #6 Baghouse

\*Note: Combined self-imposed limit on EP 019, EP 020, and EP 021 to comply with 401 KAR 63:020.

**EP 023 Furnace #6 Casting Bed**

**Description:** The molten ferroalloys tapped from furnace #6 are poured into the casting beds to cool.

Rated Capacity: 16,500 tons/yr  
Combined Limited Yearly Capacity: 95,700 tons/yr\*\*  
Control Equipment: None

**EP 023b Furnaces #15 & #16 Casting Bed**

**Description:** The molten ferroalloys tapped from the furnaces #15 and #16 are poured into the casting beds to cool.

Rated Capacity: 125,000 tons/yr  
Combined Limited Yearly Capacity: 95,700 tons/yr\*\*  
Control Equipment: None

**EP 025 Noduloy Crushing and Sizing Plant**

**Description:** Noduloy produced from the stirring stations is crushed and sized in this plant. Crushing and sizing of Noduloy from the stirring stations; consists of one crusher, four feeders/hoppers, four conveyors, and one screen in an enclosed building.

Rated Capacity: 25,000 tons/yr  
Limited Yearly Capacity: 25,000 tons/yr\*\*\*  
Control Equipment: Noduloy Crushing/Sizing Plant Wet Scrubber

\* Combined self-imposed limit on EP 019, EP 020, and EP 021 to comply with 401 KAR 63:020.

\*\* Combined self-imposed limit on EP 023 and EP 023b to comply with 401 KAR 63:020.

\*\*\* Self-imposed limit to comply with 401 KAR 63:020.

**Applicable Regulations:**

**401 KAR 59:010**, *New process operations*, applies to each affected facility that commenced on or after July 2, 1975. Applies to EPs 019 and 025.

**401 KAR 61:020**, *Existing process operations*, applies to each affected facility that commenced before July 2, 1975. Applies to EPs 020, 021, 023, and 023b.

**40 CFR 64**, *Compliance Assurance Monitoring (CAM)*, applies to EP 019, EP 020, EP 021, and EP 025.

**State-Origin Requirement:**

**401 KAR 63:020**, *Potentially hazardous matter or toxic substances*. This regulation is applicable to each affected facility which emits or may potentially emit hazardous matter or toxic substances. Applies to

**Emission Group B – Materials Handling & Casting:**

**EP 019 (Crushing and Sizing Plants #1 and #3), EP 020 (Crushing and Sizing Plants #4 and #8), EP 021 (Crushing and Sizing Plant #6), EP 023 (Furnace #6 Casting Bed, EP 023b (Furnaces #15 and #16 Casting Bed), EP 025 (Noduloy Crushing and Sizing Plant)**

Arsenic, Manganese, Mercury, and Nickel.

**Non-applicable Regulations:**

**401 KAR 60:005, Section 2(2)(qqq), 40 C.F.R. 60.670 to 60.676, Tables 1 to 3 (Subpart OOO), Standards of Performance for Nonmetallic Mineral Processing Plants.** This subpart applies to nonmetallic mineral processing plants, which is defined as equipment used to crush or grind any nonmetallic mineral. Quartz, a raw material used at CCMA, is a nonmetallic mineral as defined in 40 CFR 60.671. However, CCMA does not crush or grind quartz. Crushing and screening equipment is only used in the product-refinement step on the finished alloy product. Therefore, this subpart does not apply to the facility.

**401 KAR 63:002, Section 2(4)(ggg), 40 C.F.R. 63.1620 to 63.1661, Table 1 (Subpart XXX), National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ferroalloys Production: Ferromanganese and Silicomanganese,** applies to all new and existing ferromanganese and silicomanganese production facilities that manufacture ferromanganese or silicomanganese and are major sources or are co-located at major sources of hazardous air pollutant emissions. Pursuant to 40 CFR 63.1620(a) and (b), CCMA is required to follow the requirements of 40 CFR 63, Subpart XXX when CCMA produces silicomanganese (SiMn) product in any of the EPs listed in Emission Group B.

**Comments:**

Each crushing and sizing plant (EP 019, EP 020, and EP 021) has a separate baghouse with a control efficiency of 99.70% for particulate matter emissions. The noduloy crushing and sizing plant (EP 025) is equipped with a venturi wet scrubber with control efficiency of 98.83%. Historically 90% capture efficiency has been used for all processes in the past for Emission Inventory System (EIS) purposes and Pollutants of Concern (POC) table calculations.

PM emissions for Casting Beds are calculated using emission factors from AP-42, Table 12.5-1. PM emissions for Crushing and Sizing are from direct measurements of Crushing and Sizing 1&3 baghouse stack testing by TRC Environmental in August 2010. PM<sub>10</sub> and PM<sub>2.5</sub> emissions for Cast Beds are calculated using emission factor from AP-42, Table 12.4-5. HAP emissions for Cast Beds are calculated using metal content based on testing data of fume dust and product dust. HAP emissions for Crushing and Sizing 1&3 are calculated using dust taken on crushing and sizing baghouse in August 2010.

**EP 030: Haul Roads**

**Construction Date:** 1/30/2013

**Process Description:**

Use of trucks for transport onsite on paved and unpaved roads.

Maximum Capacity: 600,000 VMT/yr

Control Method: Wet suppression

**Applicable Regulation:**

**401 KAR 63:010, Fugitive Emissions.** This regulation applies to each apparatus, operation, or road which emits or may emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapter 50 through 68.

**Emission Group C – New Emergency Diesel Generators**

**Process Description:**

<b>Emission Point #</b>	<b>Description</b>	<b>Model</b>	<b>Fuel</b>	<b>Rated Capacity (HP)</b>	<b>Control Equipment</b>	<b>Construction Commenced</b>
031	Emergency Diesel Generator #1	CAT C27 ATAAC	Diesel	1072	None	6/2008
036	Emergency Diesel Generator #2	Cummins C200D6RG	Diesel	268	None	4/2013

**Applicable Regulations:**

**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**, applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after June 12, 2006.

**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 Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**, applies to each stationary RICE located at a major or area source of HAP emissions.

**Comments:**

Emissions are calculated using emission factors from AP42- Tables 3.3-1, 3.3-2, and 40 CFR 98 Tables C-1 and C-2. The PTE for the emergency generator is limited by 40 CFR 60.4211(f) to 100 hours per year of non-emergency operation. However, the PTE of the emergency generator was calculated based on 500 operation hrs/yr to be conservative and to account for emergency operation. HHV of Diesel Fuel is assumed to be 0.139 MMBtu/gal.

**EP 037: Non-Emergency Diesel Air Compressor**

**Construction Date:** 8/1/2019

**Process Description:**

Model: Doosan HP1600WCU-T4F  
 Rating: 580 HP  
 Primary Fuel: Diesel  
 Control Equipment: None

**Applicable Regulations:**

**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**, applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after June 12, 2006.

**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 Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**, applies to each stationary RICE located at a major or area source of HAP emissions.

**EP 037: Non-Emergency Diesel Air Compressor**

**Comments:**

Emissions are calculated using emission factors from AP42- Tables 3.3-1, 3.3-2, and 40 CFR 98 Tables C-1 and C-2. The PTE was calculated based on 8,760 operating hours as there is no regulatory limit on the hours of operation. HHV of Diesel Fuel is assumed to be 0.139 MMBtu/gal.

**EP 035: Screening/Sorting System for finished FeSi Product**

**Process Description:**

Process ID	Description	Maximum Capacity	Control Equipment	Construction Commenced
1	FeSi Product Load	10,405 ton/yr	None	2023
2	FeSi Product Unload	10,405 ton/yr	None	2023
3	FeSi Product Conveying	10,405 ton/yr	None	2023
4	Non-Emergency Diesel Combustion Engine	73.76 HP	None	2023

**Applicable Regulations:**

**401 KAR 63:010, *Fugitive emissions***, this regulation applies to each apparatus, operation, or road which emits or may emit fugitive emissions not elsewhere subject to an opacity standard within 401 KAR Chapter 50 through 68.

**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***, applies to stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after June 12, 2006. This regulation is applicable to EP 035-4.

**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 Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines***, applies to each stationary RICE located at a major or area source of HAP emissions. This regulation is applicable to EP 035-4.

**State-Origin Requirement:**

**401 KAR 63:020, *Potentially hazardous matter or toxic substances***. This regulation is applicable to each affected facility which emits or may potentially emit hazardous matter or toxic substances. This regulation allies to Arsenic, Manganese, Mercury, and Nickel.

**Comments:**

Emissions are calculated using AP-42 Table 13.2-4; Dross & Fines analysis dated October 15, 2021 for Metal HAPs; AP42- Tables 3.3-1, 3.3-2, and 40 CFR 98 Tables C-1 and C-2, and an assumption of 1,560 hrs/yr for non-emergency engine. HHV of Diesel Fuel is assumed to be 0.139 MMBtu/gal.

**Emission Group D – Silica Fume Dust Storage Silos**  
**EP 038: 6 BH Silo**  
**EP 039: 15/16 BH North Silo**  
**EP 040: 15/16 BH South Silo**

Opacity	EPs 038, 039, & 040	20% opacity	401 KAR 59:010, Section 3(1)	N/A	Qualitative weekly observations, monitoring, & recordkeeping
PM	EPs 038, 039, & 040	<ul style="list-style-type: none"> <li>• <math>P \leq 0.5</math> ton/hr = 2.34 lb/hr</li> <li>• <math>0.5 &lt; P \leq 30</math> ton/hr = <math>3.59 \times P^{0.62}</math> lb/hr</li> <li>• <math>P \geq 30</math> ton/hr = <math>17.31 \times P^{0.16}</math> lb/hr</li> </ul>	401 KAR 59:010, Section 3(2)	Manufacturer Guarantee	Monthly calculations, monitoring, & recordkeeping

**Construction Date:**

EP 038, EP 039, & EP 040: 3/1/2014

**Process Description:**

**EP 038                      6 BH Silo**

**Description:** Consists of one FeSi Silica Fume Dust silo located on the east end of the 6 Furnace Baghouse (BH) and the dust handling area. 6 BH dust is transported pneumatically from the BH, through a Cyclone and to the silo, where it is stored as product for sale or distribution.

Design Capacity:                      6,000 tons/yr\*

Control Equipment:                      Bin Vent 1 (BV-1)

**EP 039                      15/16 BH North Silo**

**Description:** Consists of one FeSi Silica Fume Dust silo located between the east end of the 15/16 Furnace Baghouse (BH), Silo and the dust handling area. 15/16 BH dust is transported pneumatically from the BH, through a Cyclone which conveys to either 15/16 BH No. Silo or 5/16 BH So. Silo, where it is stored as product for sale or distribution.

Combined (EPs 039 & 040) Capacity: 25,000 tons/yr\*\*

Control Equipment:                      Bin Vent 2 (BV-2)

**EP 040                      15/16 BH South Silo**

**Description:** Consists of one FeSi Silica Fume Dust silo located between the east end of the 15/16 Furnace Baghouse (BH), Silo and the dust handling area. 15/16 BH dust is transported pneumatically from the BH, through a Cyclone which conveys to either 15/16 BH No. Silo or 15/16 BH So. Silo, where it is stored as product for sale or distribution.

Combined (EPs 039 & 040) Capacity: 25,000 tons/yr\*\*

Control Equipment:                      Bin Vent 3 (BV-3)

**Emission Group D – Silica Fume Dust Storage Silos**

**EP 038: 6 BH Silo**

**EP 039: 15/16 BH North Silo**

**EP 040: 15/16 BH South Silo**

\* 6 BH Silo and conveyance system is designed by contractor to accommodate 6,000 tons/yr for 6 BH, with a maximum conveyance rate of 45,000 lbs/hr. Yearly capacity is based on historical dust generation estimates from production.

\*\*15/16 BH No. Silo and 15/16 BH So. Silo and conveyance system is designed by contractor to accommodate a combined 25,000 tons/yr of Silica Fume Dust from 15/16 BH, with a maximum conveyance rate of 45,000 lbs/hr. Yearly capacity is based on historical dust generation estimates from production.

**Applicable Regulations:**

**401 KAR 59:010**, *New process operations*, applies to each affected facility that commenced on or after July 2, 1975.

**State-Origin Requirement:**

**401 KAR 63:020**, *Potentially hazardous matter or toxic substances*. This regulation is applicable to each affected facility which emits or may potentially emit hazardous matter or toxic substances. Applies to Arsenic, Manganese, Mercury, and Nickel.

**Comments:**

One (1) new Silica Fume Dust storage silo is at the 6 BH (EP 038). The dust is transported pneumatically from the 6 BH through a cyclone equipped with an air lock. The dust will come through the air lock and drop into the silo. Exhaust from the cyclone is vented back to the BH inlet. EP 038 silo will be equipped with a bin vent with 99.99% control efficiency with a manufacturer guarantee to emit no more than 0.005 gr/dscf. The Bin vent situated on the top of the silo is integral to the silo operation. The 6 BH Silo bin vent will exhaust displaced air at a rate of 500 CFM.

Two (2) new Silica Fume Dust storage silos are at 15/16 Baghouse (BH) located between the east end of the BH and the dust handling area (EP 029). The dust is transported pneumatically from the BH, through a cyclone with an air lock and screw conveyor (all enclosed) which distributes the material to either of the two silos. Exhaust from the cyclone is vented back to the BH inlet. Silica Fume Dust is stored as a product for sale. Both silos are equipped with bin vents for air pollution control with 99.99% control efficiency with a manufacturer guarantee to emit no more than 0.005 gr/dscf. The Bin vents situated on the top of the silos are integral to the silo operation. The 15/16 North & South Silos bin vents will each exhaust displaced air at a rate of 3,072 CFM.



**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	Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
West exhaust duct serving Furnace #15	---	SO <sub>2</sub> NO <sub>x</sub> CO	DAQ Performance Test	---	Method 6C Method 7E Method 10	---	96.6 lb/hr 51.1 lb/hr 45.2 lb/hr	---	CMN20090002	1/21/2009
Furnace s#15/#16 (EPs 010&011)	Baghouse	HCl	EPA ICR	---	Method 26A	---	52.2 tpy 1.3 ppm <sub>dv</sub>	---	---	4/13/2010 - 4/15/2010
Crushing & Sizing #6 (EP 021)	Baghouse outlet stack	PM	EPA ICR	---	Method 5	---	0.24 lb/hr	---	---	4/15/2010
Fume dust analysis	Baghouse	Arsenic Chromium Lead Manganese Nickel Mercury Phosphorous PAHs PCBs	EPA ICR	---	SW 846 6010B, 7471A, 8270C PAH Dry, EPA-14	---	As: 56.3 mg/kg; Cr: 32.6 mg/kg Pb: 61.5 mg/kg; Mn: 495 mg/kg; Ni: 11.7 mg/kg Hg: 0.065 mg/kg; P: 1051 mg/kg; PAHs: 1009.16 µg/kg; PCBs: 5080.3 pg/g	---	---	5/10/2010

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
Furnaces #15/#16 (EPs 010&011)	Baghouse compartment C13 <sup>(1)</sup>	Formaldehyde (HCOH) CO	EPA ICR	---	Method 320	---	0.084 lb/hr 9.6 lb/hr	---	---	5/25/2010
Furnaces #15/#6 (EPs 010&011)	Furnace #15/#16 exhaust	CO	EPA ICR	---	Method 10	---	94.23 lb/hr 413 tpy <sup>(2)</sup>	Gas flow rate 395,076 dscfm; baghouse temperature 835 °F	---	5/26/2010
	Baghouse compartment C13 <sup>(1)</sup>	PM			Method 5D		1.28 lb/hr	Gas flow rate 94,687 dscfm; temperature 162.6 °F		-
		CO			Method 10		0.40 lb/hr 1.76 tpy <sup>(2)</sup>			5/27/2010

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
Crushing and Sizing #6 (EP 021)	Baghouse	PM filterable Arsenic Chromium Lead Manganese Mercury Nickel Phosphorus	EPA ICR	---	Method 5 & Method 29	---	PM: 4.09 E-04 gr/dscf; As: 7.9 mg/kg; Cr: 13.5 mg/kg; Pb: 1.1 mg/kg; Mn: 59.4 mg/kg; Hg: <0.04 mg/kg; Ni: 6.7 mg/kg; P: <18.4 mg/kg	---	---	8/25/2010 - 8/26/2010
Furnaces #15/#16 (EPs 010&011)	Baghouse	Formaldehyde (HCOH)	EPA ICR	---	Method 316	---	1.25 lb/hr	---	---	6/28/2011
Baghouse Dust Analysis	Baghouse	Arsenic	EPA ICR	---	SW 846 6010B	---	51.8 mg/kg	---	---	7/19/2011
<sup>(1)</sup> Furnace #6 Building PM Concentration <sup>(2)</sup> Furnaces #15/#16 Building PM Concentration	Baghouse	PM	EPA ICR	---	Modified 40 CFR 50, Appendix B	---	(1) 4.787 mg/m <sup>3</sup> ; (2) 5.122 mg/m <sup>3</sup>	---	---	6/7/2012

**Footnotes:**

- (1) Total baghouse emissions are compartment C13 emissions times 24 compartments.
- (2) Tons/yr assumes furnace operating 365 days/yr, 24 hrs/day.

**SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS**

**Table A - Group Requirements:**

<b>Emission and Operating Limit</b>	<b>Regulation</b>	<b>Emission Unit</b>
Combined throughput limit of 95,700 tons/yr	To comply with the requirements of 401 KAR 63:020, <i>Potentially hazardous matter or toxic substances</i>	002, 010, 011
Combined throughput limit of 180,000 tons/yr	To comply with the requirements of 401 KAR 63:020, <i>Potentially hazardous matter or toxic substances</i>	019, 020, 021
Combined throughput limit of 95,700 tons/yr	To comply with the requirements of 401 KAR 63:020, <i>Potentially hazardous matter or toxic substances</i>	023, 023b
Throughput limit of 25,000 tons/yr	To comply with the requirements of 401 KAR 63:020, <i>Potentially hazardous matter or toxic substances</i>	025
Throughput limit of 6,000 tons/yr	To limit PTE	038
Combined throughput limit of 25,000 tons/yr	To limit PTE	039 & 040

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

<b>Applicable Regulations</b>	<b>Emission Unit</b>
<b>401 KAR 59:010, <i>New process operations</i></b> , applies to each affected facility or source, associated with a process operation, which is not subject to another emission standard with respect to particulates in 401 KAR Chapter 61, commenced on or after July 2, 1975.	019, 025, 038, 039, 040
<b>401 KAR 60:005, Section 2(4)(dddd), 40 C.F.R. 60.4200 to 60.4219, Tables 1 to 8 (Subpart IIII), <i>Standards of Performance for Stationary Compression Ignition Internal Combustion Engines</i></b> , applies to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in 40 CFR 60.4200(a)(1) through (4). For the purposes of 40 CFR 60, Subpart IIII, the date that construction commences is the date the engine is ordered by the owner or operator.	031
<b>401 KAR 61:020, <i>Existing process operations</i></b> , applies to each affected facility or source, associated with a process operation, which is not subject to another emission standard with respect to particulates in 401 KAR Chapter 61, commenced before July 2, 1975.	020, 021, 023, 023b
<b>401 KAR 61:070, <i>Existing ferroalloy production facilities</i></b> , applies to affected facilities that commenced construction, modification, or reconstruction after January 5, 1981.	002, 010, 011, 029
<b>401 KAR 63:002, Section 2(4)(wwwww), 40 C.F.R. 63.11524 to 63.11532, Table 1 (Subpart YYYYYY), <i>National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloy Production Facilities</i></b> , applies to a ferroalloy production facility that is an area source of subject hazardous air pollutants (HAPs) emissions.	002, 010, 011

Applicable Regulations	Emission Unit
<b>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</b> , applies to stationary RICE located at a major or area source of HAP emissions.	031
<b>401 KAR 63:010, Fugitive emissions</b> , applies to operations which emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.	030
<b>401 KAR 63:020, Potentially hazardous matter or toxic substances</b> , applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided such emissions are not elsewhere subject to provisions of an administrative regulation of the Division for Air Quality.	002, 010, 011, 019, 020, 021, 023, 023b, 025, 035, 038, 039, 040
<b>40 CFR 64, Compliance Assurance Monitoring (CAM)</b> , applicable to each pollutant-specific emission units (PSEU) that is subject to an emission limitation, uses a control device to achieve compliance, and has pre-control emissions that exceed a major source threshold.	002, 010, 011, 019, 020, 021, 025

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

N/A

**Table D - Summary of Non-Applicable Regulations:**

Non-Applicable Regulations	Emission Unit
<b>401 KAR 59:105, New process gas stream</b> , does not apply to EP 002, EP 010, and EP 011, as the furnaces were not commenced on or after June 6, 1979.	002, 010, 011
<b>401 KAR 60:005, Section 2(2)(hh), 40 C.F.R. 60.260 to 60.266 (Subpart Z), Standards of Performance for Ferroalloy Production Facilities</b> , is not applicable because the furnaces were not constructed or modified after October 21, 1974.	002, 010, 011
<b>401 KAR 61:020, Existing Process Operations</b> , does not apply to EP 002, EP 010, and EP 011, as these furnaces are subject to 401 KAR 61:070.	002, 010, 011
<b>401 KAR 61:035, Existing process gas streams</b> , does not apply EP 002, EP 010, and EP 011, as the facility is not located in a county classified as Class I or VA with respect to sulfur dioxide in 401 KAR 50:025.	002, 010, 011
<b>401 KAR 63:002, Section 2(4)(ggg), 40 C.F.R. 63.1620 to 63.1661, Table 1 (Subpart XXX), National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ferroalloys Production: Ferromanganese and Silicomanganese</b> , applies to all new and existing ferromanganese and silicomanganese production facilities that manufacture ferromanganese or silicomanganese and are major sources or are co-located at major sources of hazardous air pollutant emissions. Based on the addendum submitted on February 5, 2002, the applications submitted on October 23, 2009, December 29, 2010, and the addendum on September 19, 2023, the permittee has determined that the facility will not produce ferromanganese or silicomanganese in furnaces 6 & 15/16 in the future.	002, 010, 011

**Air Toxic Analysis**

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

The Division for Air Quality (Division) has performed AERMOD on March 7, 2024, of potentially hazardous matter or toxic substances (Arsenic, Manganese, Mercury, and Nickel) 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.

**401 KAR 53:010, *Ambient Air Quality Standards***

The Division has performed air dispersion modeling on March 7, 2024, of potentially hazardous substances for lead emissions based upon the process rates, emission factors, control efficiencies, stack height, and other pertinent information provided in the application and supplemental information submitted by the source. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with 401 KAR 53:005 and the AAQS in 401 KAR 53:010.

**Single Source Determination**

N/A

**SECTION 5 – PERMITTING HISTORY**

<b>Permit</b>	<b>Permit Type</b>	<b>Activity#</b>	<b>Complete Date</b>	<b>Issuance Date</b>	<b>Summary of Action</b>	<b>PSD/Syn Minor</b>
O-87-130	Initial	APE19870001	9/23/1987	2/2/1988	Initial Construction Permit	N/A
V-12-009	Initial	APE20100002	3/1/2011	1/30/2013	Initial	N/A
V-12-009 R1	Minor Revision 1	APE20170001	6/1/2017	7/31/2017	Minor Revision	N/A
V-17-038	Renewal	APE20170002	10/13/2017	5/1/2018	Renewal	N/A



## **SECTION 6 – PERMIT APPLICATION HISTORY**

None

## **APPENDIX A – ABBREVIATIONS AND ACRONYMS**

BACT	– Best Available Control Technology
Cabinet	– Kentucky Energy and Environmental Cabinet
CAM Plan	– Compliance Assurance Monitoring Plan
CFR	– Code of Federal Regulations
Division	– Kentucky Division for Air Quality
EAF	– Electric Arc Furnace
EP	– Emission Point
FeSi	– Ferrosilicon
hr	– hour
lb	– Pounds
HAP(s)	– Hazardous Air Pollutant(s)
KAR	– Kentucky Administrative Regulations
KYEIS	– Kentucky Emissions Inventory System
MMBtu/hr	– Million British Thermal Units per Hour
MOR	– Metal Oxygen Refining
MSDS	– Material Safety Data Sheet
NESHAP	– National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	– Nitrogen Oxides
PM	– Particulate Matter
PM <sub>10</sub>	– Particulate Matter equal to or smaller than 10 micrometers
PSD	– Prevention of Significant
PTE	– Potential to Emit
QIP	– Quality Improvement Plan
Reference Method 9	– U.S. EPA Reference Method 9, 40 CFR 60, Appendix A
SiMn	– Silicomanganese
U.S. EPA	– United States Environmental Protection Agency
VE	– Visible Emissions