

**Commonwealth of Kentucky  
Energy and Environment Cabinet  
Department for Environmental Protection  
Division for Air Quality  
300 Sower Boulevard, 2<sup>nd</sup> Floor  
Frankfort, Kentucky 40601  
(502) 564-3999**

**Draft**

**AIR QUALITY PERMIT  
Issued under 401 KAR 52:020**

**Permittee Name:** CC Metals and Alloys, LLC  
**Mailing Address:** 1542 N. Main Street  
Calvert City, KY42029

**Source Name:** CC Metals and Alloys, LLC  
**Mailing Address:** 1542 N. Main Street  
Calvert City, KY42029

**Source Location:** Same as above

**Permit:** V-23-022  
**Agency Interest:** 2930  
**Activity:** APE20220007; APE20230002  
**Review Type:** Title V, Construction / Operating  
**Source ID:** 21-157-00002

**Regional Office:** Paducah Regional Office  
130 Eagle Nest Drive  
Paducah, KY 42003  
(270) 898-8468

**County:** Marshall

**Application Complete Date:** May 30, 2023  
**Issuance Date:**  
**Expiration Date:**

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**For Michael J. Kennedy, P.E.  
Director  
Division for Air Quality**

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Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action
V-23-022	Renewal	APE20220007; APE20230002	5/30/2023		Permit renewal; added EPs 035, 036, 037, 038, 039, and 040; updated CAM Plan and added QIP requirements; Removed EP 023a

## SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Energy and Environment Cabinet (Cabinet) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit was issued under the provisions of Kentucky Revised Statutes (KRS) Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.

**Definitions:** The following definitions apply to all abbreviations and variables used in this permit:

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
FeSi	– Ferrosilicon
EP	– Emission Point
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
MSDS	– Material Safety Data Sheet
NESHAP	– National Emission Standards for Hazardous Air Pollutants
NOx	– Nitrogen Oxides
PM	– Particulate Matter
PM <sub>10</sub>	– Particulate Matter equal to or smaller than 10 micrometers
QIP	– Quality Improvement Plan
Reference Method 9	– U.S. EPA Reference Method 9, 40 CFR 60, Appendix A
U.S. EPA	– United States Environmental Protection Agency
VE	– Visible Emissions

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS****Emission Group A – Furnaces Operations****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

Construction Commenced: 1972

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

Baghouse Construction Date: 1976

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

Construction Commenced: 1965

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

Baghouse Construction Date: 1977

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

Construction Commenced: 1965

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

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

Baghouse Construction Date: 1977

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 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)

Construction Commenced: 1972

Control Equipment: None

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

**APPLICABLE REGULATIONS:****401 KAR 61:070**, *Existing ferroalloy production facilities***401 KAR 63:002, Section 2(4)(wwwwww), 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***40 CFR 64**, *Compliance Assurance Monitoring (CAM)*, applies to EP 002, EP 010, and EP 011 with respect to PM.**STATE-ORIGIN REQUIREMENTS:****401 KAR 63:020**, *Potentially hazardous matter or toxic substances***1. Operating Limitations:**

The combined throughput for EP 002, EP 010, and EP 011 shall not exceed 95,700 tons/yr, on a rolling 12-month basis. [Self-imposed to comply with 401 KAR 63:020]

**Compliance Demonstration Method:**

A. Monthly production rates shall be calculated as a sum of daily production rates for every calendar month.

B. Refer to **4. Specific Monitoring Requirements** (a) and **5. Specific Recordkeeping Requirements** (a).

**2. Emission Limitations:**

a. The permittee shall not cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which: [401 KAR 61:070, Section 3(1)]

i. For EP 002, EP 010, and EP 011: Exit from a control device and exhibit an opacity equal to or greater than three (3) percent where control device has dispersed discharge. [401 KAR 61:070, Section 3(1)(a)]

## **SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- ii. Exit from any building opening and exhibit an opacity equal to or greater than: [401 KAR 61:070, Section 3(1)(b)]
- 1) Fifteen (15) percent for these gases which are the result of routine smelting/melting operations where no auxiliary operations will occur; [401 KAR 61:070, Section 3(1)(b)(1)]
  - 2) Twenty (20) percent for those gases which are from a furnace associated with metallurgical treatment while no auxiliary operations are occurring; [401 KAR 61:070, Section 3(1)(b)(2)]
  - 3) Twenty-five (25) percent for those gases which are the result of tapping operations; [401 KAR 61:070, Section 3(1)(b)(3)]
  - 4) Forty (40) percent for those gases which occur only during a metallurgical treatment; or [401 KAR 61:070, Section 3(1)(b)(4)]
  - 5) Forty (40) percent for those gases which occur during the pouring of metal from slag ladles into castbeds or molds. [401 KAR 61:070, Section 3(1)(b)(5)]
- b. For EP 029: The permittee shall not cause to be discharged into the atmosphere from any dust-handling equipment any gases which exhibit fifteen (15) percent opacity or greater. [401 KAR 61:070, Section 3(2)]
- c. For the control devices for EP 002, EP 010, and EP 011: The permittee shall not discharge to the atmosphere visible emissions (VE) from the control device that exceed 5 percent of accumulated occurrences in a 60-minute observation period. [40 CFR 63.11526(a)]
- d. The permittee shall not discharge to the atmosphere fugitive PM emissions from the furnace building containing the electrometallurgical operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 60 percent. [40 CFR 63.11526(b)]

### **Compliance Demonstration Method:**

The permittee shall demonstrate compliance for the opacity standards listed in **2. Emission Limitations** (a) – (d) according to the following:

<b>Standard</b>	<b>Compliance Method</b>	<b>Frequency</b>
<b>2. <u>Emission Limitations</u></b> (a)(i)	Conduct Method 9 during tapping.*	Weekly
<b>2. <u>Emission Limitations</u></b> (a)(ii)**	Conduct Method 9 for each operation.*	Weekly for each listed operation
<b>2. <u>Emission Limitations</u></b> (b)	Conduct Method 9.	Weekly
<b>2. <u>Emission Limitations</u></b> (c)	Qualitative visual observations for a minimum of 6 minutes during tapping, and if any visible emissions are observed conduct a Method 22.	Daily for 90 operating days and weekly if no visible emissions detected. Refer to <b>3. <u>Testing Requirements</u></b> (a) – (c) and <b>4. <u>Specific Monitoring Requirements</u></b> (a).

## SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Standard	Compliance Method	Frequency
2. <b><u>Emission Limitations</u></b> (d)	Visual observations for a minimum of 6 minutes. If any visible emissions are observed conduct a Method 9.	6 Months Refer to 3. <b><u>Testing Requirements</u></b> (a) – (c) and 4. <b><u>Specific Monitoring Requirements</u></b> (a).

### Notes:

- \* For the purposes of the 401 KAR 61:070, auxiliary operations shall mean: an operation such as cleaning, machining, grinding, polishing, etc. performed by non-process equipment not under the control of the central processing unit. Metallurgical treatment shall mean: purifying and alloying metals.
  - \*\* Clarifications of activities by the facility: 2. **Emission Limitations** (a)(ii)(1): includes melting operations only; 2. **Emission Limitations** (a)(ii)(2): includes melting and stoking operations; 2. **Emission Limitations** (a)(ii)(3): includes tapping operations; 2. **Emission Limitations** (a)(ii)(4): includes stirring operations; 2. **Emission Limitations** (a)(ii)(5): includes casting operations.
- e. The permittee shall not allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. [401 KAR 63:020, Section 3]

### Compliance Demonstration Method:

The Cabinet determines that, when meeting the requirements in this permit, the source is in compliance with 401 KAR 63:020 based on the rate of emissions of airborne toxics determined by the Cabinet using information provided in the application and any supplemental information submitted by the source.

### 3. **Testing Requirements:**

- a. ***Initial compliance demonstration deadlines.*** The permittee shall conduct an initial Method 22 (appendix A-7 of 40 CFR 60) test following the requirements of 40 CFR 63.11528(b)(1) of each existing electrometallurgical operation control device and an initial Method 9 observation following the requirements of 40 CFR 63.11528(c)(1) from the furnace building due to electrometallurgical operations no later than 60 days after the applicable compliance date. For any new electrometallurgical operation control device, the permittee shall conduct an initial Method 22 test following the requirements of 40 CFR 63.11528(b)(1) within 15 days of startup of the control device. [40 CFR 63.11528(a)]

Note: Initial compliance test for Furnaces #15 and #16 was completed on August 19, 2009.  
Initial compliance test for Furnace #6 was completed on February 16, 2010.  
Initial compliance test for Furnace Building was completed on February 16, 2010.

- b. ***Visible emissions limit compliance demonstration.*** [40 CFR 63.11528(b)]
- i. The permittee shall conduct a Method 22 (appendix A-7 of 40 CFR part 60) test to determine that VE from the control device do not exceed the emission standard specified in 40 CFR 63.11526(a). For a fabric filter, conduct the test for at least 60 minutes at the fabric filter monovalent or outlet stack(s), as applicable. For a wet

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- scrubber, conduct the test for at least 60 minutes at the outlet stack(s). [40 CFR 63.11528(b)(1)]
- ii. The permittee shall conduct a semiannual Method 22 test using the procedures specified in 40 CFR 63.11528(b)(1). [40 CFR 63.11528(b)(2)]
- c. ***Furnace building opacity.*** [40 CFR 63.11528(c)]
- i. The permittee shall conduct an opacity test for emissions from the furnace building according to the procedures in 40 CFR 63.6(h) and Method 9 (appendix A-4 of 40 CFR 60). The test shall be conducted for at least 60 minutes and shall include tapping the furnace or reaction vessel. The observation shall be focused on the part of the building where electrometallurgical operation emissions are most likely to be observed. [40 CFR 63.11528(c)(1)]
  - ii. Conduct subsequent Method 9 tests no less frequently than every 6 months each time the permittee makes a process change likely to increase fugitive emissions. [40 CFR 63.11528(c)(2)]
  - iii. After the initial Method 9 performance test, as an alternative to the Method 9 performance test, the permittee may monitor VE using Method 22 (appendix A-7 of 40 CFR Part 60) for subsequent semi-annual compliance demonstrations. The Method 22 test is successful if no VE are observed for 90 percent of the readings over the furnace cycle (tap to tap) or 60 minutes, whichever is longer. If VE are observed greater than 10 percent of the time over the furnace cycle or 60 minutes, whichever is longer, then the facility shall conduct another test as soon as possible, but no later than 15 calendar days after the Method 22 test using Method 9 (appendix A-4 of 40 CFR part 60) as specified in 40 CFR 63.11528(c)(1). [40 CFR 63.11528(c)(3)]
- d. The permittee shall use Method 9 in Appendix A of 40 CFR 60 to demonstrate compliance with the opacity limitations. [401 KAR 61:070, Section 4]
- e. The VE tests listed under **3. Testing Requirements** shall follow the pre-test requirements in 401 KAR 50:045, Section 2 and meet all other requirements in 401 KAR 50:045.
- f. Pursuant to 401 KAR 61:005, Section 2 and 401 KAR 50:045, Section 1, performance testing using the Reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.
- 4. Specific Monitoring Requirements:**
- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
    - i. The monthly and 12-month rolling total process weight;
    - ii. The monthly and 12-month rolling total hours of operation.
  - b. ***For EAF Equipped with Fabric Filters:***
    - i. *Visual monitoring.* The permittee shall conduct visual monitoring of the monovent or fabric filter outlet stack(s) for any VE according to the schedule specified in 40 CFR 63.11527(a)(1)(i) and (a)(1)(ii). [40 CFR 63.11527(a)(1)]



**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- 1) *Daily visual monitoring.* Perform visual determination of emissions once per day, on each day the process is in operation, during operation of the process. [40 CFR 63.11527(a)(1)(i)]
  - 2) *Weekly visual monitoring.* If no visible emissions are detected in consecutive daily visual monitoring performed in accordance with 40 CFR 63.11527(a)(1)(i) for 90 days of operation of the process, the permittee may decrease the frequency of visual monitoring to once per calendar week of time the process is in operation, during operation of the process. If visible emissions are detected during these inspections, the permittee shall resume daily visual monitoring of that operation during each day that the process is in operation, in accordance with 40 CFR 63.11527(a)(1)(i) until the permittee satisfies the criteria of 40 CFR 63.11527(a) to resume conducting weekly visual monitoring. [40 CFR 63.11527(a)(1)(ii)]
    - ii. If the visual monitoring reveals the presence of any VE, the permittee shall conduct a Method 22 (appendix A-7 of 40 CFR part 60) test following the requirements of 40 CFR 63.11528(b)(1) within 24 hours of determining the presence of any VE. [40 CFR 63.11527(a)(2)]
    - iii. The permittee may install, operate, and maintain a bag leak detection system for each fabric filter as an alternative to the monitoring requirements in 40 CFR 63.11527(a)(1). Such source is not subject to the requirements in 40 CFR 63.11527(a)(1) and (a)(2). [40 CFR 63.11527(a)(3)]
- c. The permittee shall maintain the monitoring for 40 CFR 64, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [40 CFR 64.7(b)]
  - d. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit (PSEU) is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 CFR 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 64.7(c)]
  - e. ***Response to excursions or exceedances.*** [40 CFR 64.7(d)]
    - i. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [40 CFR 64.7(d)(1)]
- ii. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [40 CFR 64.7(d)(2)]
  - iii. Based on the results of a determination made under 40 CFR 64.7(d)(2), the Administrator or the Division may require the permittee to develop and implement a QIP. [40 CFR 64.8(a)]
- f. ***For Furnace Buildings:***
- i. The permittee shall keep notation of each type of operation at each furnace and start and end times of each operation during the observation period. [401 KAR 52:020, Section 10]
  - ii. The permittee shall monitor and record start up time and duration of each operation listed in **2. Emission Limitations** (a)(ii) on a daily basis. [401 KAR 52:020, Section 10]
- g. ***For Dust Handling Equipment (Dust Handling and Loading):***
- i. The permittee shall install, calibrate, maintain and operate, according to manufacturer's specification, a monitoring device (Current Transducer, CT) for the continuous measurement of amperage on the fan motor(s) through each separately ducted hood of the capture system for the furnace and the tapping and stirring station operations. [401 KAR 52:020, Section 10]
  - ii. The permittee shall install, calibrate, maintain and operate according to manufacturer's specification, a monitoring device for the measurement of pressure drop across each baghouse continuously. [401 KAR 52:020, Section 10]
- h. Refer to **7. Specific Control Equipment Operating Conditions.**
- i. Refer to **Attachment A** for CAM requirements pursuant to 40 CFR 64.
  - j. Refer to **SECTION F** for general monitoring requirements.
- 5. Specific Recordkeeping Requirements:**
- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
    - i. The monthly and 12-month rolling total process weight;
    - ii. The monthly and 12-month rolling total hours of operation;
    - iii. MSDS for all materials used.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. The permittee shall keep the records specified in 40 CFR 63.11529(d)(1) through (2). [40 CFR 63.11529(d)]
  - i. As required in 40 CFR 63.10(b)(2)(xiv), the permittee shall keep a copy of each notification that the permittee submitted to comply with 40 CFR 63, Subpart YYYYYY and all documentation supporting any Initial Notification, Notification of Compliance Status, and annual compliance certifications submitted. [40 CFR 63.11529(d)(1)]
  - ii. The permittee shall keep the records of all daily or weekly visual, Method 22 (appendix A-7 of 40 CFR 60), and Method 9 (appendix A-4 of 40 CFR 60) monitoring data required by 40 CFR 63.11527 and the information identified in 40 CFR 63.11529(d)(2)(i) through (d)(2)(v). [40 CFR 63.11529(d)(2)]
    - 1) The date, place, and time of the monitoring event; [40 CFR 63.11529(d)(2)(i)]
    - 2) Person conducting the monitoring; [40 CFR 63.11529(d)(2)(ii)]
    - 3) Technique or method used; [40 CFR 63.11529(d)(2)(iii)]
    - 4) Operating conditions during the activity; and [40 CFR 63.11529(d)(2)(iv)]
    - 5) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem (e.g., VE) to the time that monitoring indicated proper operation. [40 CFR 63.11529(d)(2)(v)]
- c. The records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). [40 CFR 63.11529(e)]
- d. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5 years following the date of each recorded action. [40 CFR 63.11529(f)]
- e. The permittee must keep each record onsite for at least 2 years after the date of each recorded action according to 40 CFR 63.10(b)(1). The permittee may keep the records offsite for the remaining 3 years. [40 CFR 63.11529(g)]
- f. The permittee shall maintain records of startup time and duration of each operation (including auxiliary operations) listed in **2. Emission Limitations** (a)(ii) on a daily basis. [401 KAR 52:020, Section 10]
- g. The permittee shall maintain records of preventive maintenance and inspection of the particulate control devices in accordance with **7. Specific Control Equipment Operating Conditions**. [401 KAR 52:020, Section 10]
- h. The permittee shall record and maintain the records of the occurrence, duration, cause and any corrective action taken (for every emission point) for each excursion as defined in the CAM Plan in Attachment A of permit V-23-022 and for the following indicators below: [401 KAR 52:020, Section 10]
  - i. The amperage on the fan motor(s), of the capture system is below that established in the most recent performance test;
  - ii. The respective pressure drop readings of the baghouse are outside the range established in the most recent performance test.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- i. The permittee shall maintain records of continuous readings of pressure drop across each baghouse and the amperage on the fan motor(s) through each separately ducted hood of the capture system for the furnace and the tapping and stirring station operations. Current Transducers (CTs) on the tap fans and stirring fans will measure their respective amperages. [401 KAR 52:020, Section 10]
- j. The permittee shall maintain records of the items listed in **4. Specific Monitoring Requirements**. [401 KAR 52:020, Section 10]
- k. The permittee shall maintain a written QIP, if required, and have it available for inspection. [40 CFR 64.8(b)(1)]
  - i. The facility was required to prepare a QIP for Furnaces #15/#16 (EP 010 & EP 011) building including the control device and associated capture system.
- l. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)(1)]
- m. Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b)(2)]
- n. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

- a. ***Annual compliance certification.*** The permittee shall submit an annual certification of compliance according to 40 CFR 63.11529(c)(1) through (c)(4). [40 CFR 63.11529(c)]
  - i. The results of any daily or weekly visual monitoring events required by 40 CFR 63.11527(a)(1) and (b)(1), or alarm-based visual monitoring at sources equipped with bag leak detection systems as required by 40 CFR 63.11527(a)(4). [40 CFR 63.11529(c)(1)]
  - ii. The results of the follow up Method 22 (appendix A-7 of 40 CFR 60) tests that are required if VE are observed during the daily or weekly visual monitoring, alarm-based visual monitoring, or out-of-range operating readings as described of 40 CFR 63.11529(c)(1). [40 CFR 63.11529(c)(2)]
  - iii. The results of the Method 22 (appendix A-7 of 40 CFR 60) or Method 9 (appendix A-4 of 40 CFR 60) tests required by 40 CFR 63.11528(b) and (c), respectively. [40 CFR 63.11529(c)(3)]
  - iv. If the permittee operates a bag leak detection system for a fabric filter, submit annual reports according to the requirements in 40 CFR 63.10(e) and include summary information on the number, duration, and cause (including unknown cause, if

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable). [40 CFR 63.11529(c)(4)]
- b. ***Documentation of need for improved monitoring.*** After approval of monitoring under 40 CFR 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]
  - c. On and after the date specified in 40 CFR 64.7(a) by which the permittee must use monitoring that meets the requirements of 40 CFR 64, the permittee shall submit monitoring reports to the Division in accordance with **SECTION F**. [40 CFR 64.9(a)(1)]
  - d. A report for monitoring under 40 CFR 64 shall include, at a minimum, the information required under 40 CFR 70.6(a)(3)(iii) and the following information, as applicable: [40 CFR 64.9(a)(2)]
    - i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; [40 CFR 64.9(a)(2)(i)]
    - ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and [40 CFR 64.9(a)(2)(ii)]
    - iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [40 CFR 64.9(a)(2)(iii)]
    - iv. The threshold for requiring the implementation of a QIP is an accumulation of exceedances or excursions exceeding 3 percent duration of a pollutant-specific emissions unit's operating time for a semiannual reporting period. [40 CFR 64.8(a)]
  - e. Refer to **Attachment A** for reporting requirements under 40 CFR 64.
  - f. Refer to **SECTION F** for general reporting requirements.
- 7. Specific Control Equipment Operating Conditions:**
- a. The permittee shall install, operate, and maintain the control device(s) associated with each emission point according to the manufacturer's specifications and during all times that the associated emission point is operating. [401 KAR 52:020, Section 10]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. The permittee shall maintain the amperage on the fan motor(s), through each separately ducted hood of each capture system at or above the appropriate level determined for each capture system during the most recent stack test when compliance was demonstrated. [401 KAR 52:020, Section 10]
- c. The permittee shall maintain the pressure drops across each baghouse within the range established during the most recent stack test when compliance was demonstrated. [401 KAR 52:020, Section 10]
- d. The permittee shall keep records of the manufacturer's name, number, and type of the bags used in the baghouses currently and as they are replaced and make them available for inspection. [401 KAR 52:020, Section 10]
- e. The permittee shall notify the Division prior to changing the types of bags or any other baghouse equipment. [401 KAR 52:020, Section 10]
- f. The permittee shall not conduct EAF operations unless furnace air pollution control equipment is properly maintained and operated according to manufacturer's specifications and good engineering practices. [401 KAR 52:020, Section 10]
- g. Each submerged EAF, tapping and stirring station shall be equipped with a canopy hood for collection of process emissions, and such hood shall be properly designed, maintained, and operated at all times with all captured emissions ducted to the specified respective EAF baghouse. [401 KAR 52:020, Section 10]
- h. If any portion of the capture or control system malfunctions, fails, or otherwise is inoperable, the associated emission points shall not be operated until the control and capture systems are restored to normal operation (i.e., as operated during the most recent stack test in which compliance was demonstrated). [401 KAR 52:020, Section 10]
- i. If a QIP is required, the permittee shall develop and implement the QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. [40 CFR 64.8(c)]
  - i. The permittee was required to develop a QIP for Furnaces #15/#16 (EP 010 & EP 011) building including the control device and associated capture system on December 14, 2022. The permittee shall implement the QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
- j. Following implementation of a QIP, upon any subsequent determination pursuant to 40 CFR 64.7(d)(2) the Administrator or the Division may require that the permittee make reasonable changes to the QIP if the QIP is found to have: [40 CFR 64.8(d)]
  - i. Failed to address the cause of the control device performance problems; or [40 CFR 64.8(d)(1)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- ii. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR 64.8(d)(2)]
  
- k. Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. [40 CFR 64.8(e)]
  
- l. Refer to **SECTION E**.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Emission Group B – Materials Handling & Casting****Crushing and Sizing Operations:****EP 019                      Crushing & Sizing Plants #1 & #3**

**Description:** Plant #1 consists of one feeder/hopper, one jaw crusher, one belt conveyor, and one screener; Plant #3 consists of one feeder/hopper, one jaw crusher, and a triple deck screen in an enclosed building and one belt conveyor.

Rated Capacity:                      60,000 tons/yr  
Combined Limited Yearly Capacity: 180,000 tons/yr\*  
Construction Commenced:        1977  
Control Equipment:                Crushing/Sizing Plant #1 & #3 Baghouse  
Baghouse Construction Date:     1977

**EP 020                      Crushing & Sizing Plants #4 & #8**

**Description:** Consists of nine feeders/hoppers, four crushers, and two screens in an enclosed building.

Rated Capacity:                      60,000 tons/yr  
Combined Limited Yearly Capacity: 180,000 tons/yr\*  
Construction Commenced:        1973  
Control Equipment:                Crushing/Sizing Plant #4 & #8 Baghouse  
Baghouse Construction Date:     1977

**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\*  
Construction Commenced:        1973  
Control Equipment:                Crushing/Sizing Plant #6 Baghouse  
Baghouse Construction Date:     1985

**Casting Bed Operations:****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\*\*  
Construction Commenced:        1962  
Control Equipment:                None



**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****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\*\*  
Construction Commenced:        1965  
Control Equipment:                      None

**EP 025                              Noduloy Crushing & 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\*\*\*  
Construction Commenced:        1986  
Control Equipment:                      Noduloy Crushing/Sizing Plant Wet Scrubber  
Scrubber Construction Date: 1986

Notes:

\* 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 EPs 019 and 025.

**401 KAR 61:020**, *Existing process operations*, applies to EPs 020, 021, 023, and 023b.

**40 CFR 64**, *Compliance Assurance Monitoring (CAM)*, applies to EPs 019, 020, and 021 with respect to PM.

**STATE-ORIGIN REQUIREMENTS:**

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

**1. Operating Limitations:**

- a. The combined throughput for EP 019, EP 020, and EP 021 shall not exceed 180,000 tons/yr, on a rolling 12-month basis. [Self-imposed to comply with 401 KAR 63:020]
- b. The combined throughput for EP 023 and EP 023b shall not exceed 95,700 tons/yr, on a rolling 12-month basis. [Self-imposed to comply with 401 KAR 63:020]
- c. The throughput for EP 025 shall not exceed 25,000 tons/yr, on a rolling 12-month basis. [Self-imposed to comply with 401 KAR 63:020]

## **SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

### **Compliance Demonstration Method:**

- A. Monthly production rates shall be calculated as a sum of daily production rates for every calendar month.
- B. Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

### **2. Emission Limitations:**

- a. For EP 019 and EP 025: The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)]

### **Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements** (b) and **5. Specific Recordkeeping Requirements** (b).

- b. For EP 020, EP 021, EP 023, and EP 023b: The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than forty (40) percent opacity. [401 KAR 61:020, Section 3(1)]

### **Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements** (b) and **5. Specific Recordkeeping Requirements** (b).

- c. For EP 019 and EP 025: For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in 401 KAR 59:010, Appendix A: [401 KAR 59:010, Section 3(2)]

- i. For process weight rates up to 0.5 ton/hr:  $E = 2.34$
- ii. For process weight rates up to 30 ton/hr:  $E = 3.59P^{0.62}$
- iii. For process weight rates in excess of 30 ton/hr:  $E = 17.31P^{0.16}$

Where E = rate of emission in lb/hr and P = process weight rate in tons/hr.

- d. EP 020, EP 021, EP 023, and EP 023b: For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in 401 KAR 61:020, Appendix A: [401 KAR 61:020, Section 3(2)]

- i. For process weight rates up to 0.5 ton/hr:  $E = 2.58$
- ii. For process weight rates up to 30 ton/hr:  $E = 4.10P^{0.67}$
- iii. For process weight rates in excess of 30 ton/hr:  $E = 55.0P^{0.11} - 40$

Where E = rate of emission in lb/hr and P = process weight rate in tons/hr.

### **Compliance Demonstration Method:**

To demonstrate compliance with the particulate matter emission limitations specified in 401 KAR 59:010 and 401 KAR 61:020, the permittee shall monitor the amounts and types

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

of process weight added to each emission unit. The process weight rate shall be determined by using the tons of material added to each emissions unit in a calendar month divided by the total hours the unit operated that month. The average particulate emissions shall be calculated as follows:

$$PE = \left( \frac{PW \times EF^*}{H} \right) \times (1 - CE)$$

Where:

*PE* = particulate emissions in lb/hr;

*PW* = process weight in tons/month;

*EF* = particulate emission factor in lb/tons of process weight;

\* The particulate emission factor shall be the number determined from AP-42, MSDS, the most recent Division approved stack test, or Division approved value.

*H* = total hours of operation in a month; and

*CE* = Control efficiency

- e. The permittee shall not allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. [401 KAR 63:020, Section 3]

**Compliance Demonstration Method:**

The Cabinet determines that, when meeting the requirements in this permit, the source is in compliance with 401 KAR 63:020 based on the rate of emissions of airborne toxics determined by the Cabinet using information provided in the application and any supplemental information submitted by the source.

**3. Testing Requirements:**

Pursuant to 401 KAR 61:005, Section 2, 401 KAR 59:005, Section 2(2), and 401 KAR 50:045 Section 1, performance testing using the Reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly and 12-month rolling total process weight;
  - ii. The monthly and 12-month rolling total hours of operation.
- b. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack once per calendar week while the affected facility is operating. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]
- c. The permittee shall install, calibrate, and maintain according to manufacturers' specification, the following: [401 KAR 52:020, Section 10]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- i. A monitoring device for the measurement of the pressure drop across each baghouse associated with EP 019, EP 020, and EP 021 once per shift. The permittee shall maintain a log of all readings. The log shall also include allowable operating ranges; and
  - ii. A monitoring device for the measurement of the pressure drop through the scrubber on EP 025 once per shift. The permittee shall maintain a log of all readings. The log shall also include allowable operating ranges.
- d. The permittee shall maintain the monitoring for 40 CFR 64, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [40 CFR 64.7(b)]
- e. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit (PSEU) is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 CFR 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 64.7(c)]
- f. ***Response to excursions or exceedances.*** [40 CFR 64.7(d)]
  - i. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [40 CFR 64.7(d)(1)]
  - ii. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [40 CFR 64.7(d)(2)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- iii. Based on the results of a determination made under 40 CFR 64.7(d)(2), the Administrator or the Division may require the permittee to develop and implement a QIP. [40 CFR 64.8(a)]
  - g. The permittee shall inspect spray headers and nozzles of the scrubber once per quarter. [401 KAR 52:020, Section 10]
  - h. Refer to **7. Specific Control Equipment Operating Conditions.**
  - i. Refer to **Attachment A** for CAM requirements pursuant to 40 CFR 64.
  - j. Refer to **SECTION F** for general monitoring requirements.
- 5. Specific Recordkeeping Requirements:**
- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
    - i. The monthly and 12-month rolling total process weight;
    - ii. The monthly and 12-month rolling total hours of operation;
    - iii. MSDS for all materials used.
  - b. The permittee shall retain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (b)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]
  - c. The permittee shall maintain records of readings of the pressure drop across each baghouse at EP 019, EP 020, and EP 021 once during each shift and shall make them available for inspection. [401 KAR 52:020, Section 10]
  - d. The permittee shall maintain records of readings of the pressure drop through the scrubber at EP 025 once during each shift and shall make them available for inspection. [401 KAR 52:020, Section 10]
  - e. The permittee shall keep records of inspections of spray headers and nozzles once per quarter. [401 KAR 52:020, Section 10]
  - f. The permittee shall maintain a written QIP, if required, and have it available for inspection. [40 CFR 64.8(b)(1)]
  - g. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)(1)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- h. Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b)(1)]
- i. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

- a. ***Documentation of need for improved monitoring.*** After approval of monitoring under 40 CFR 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7(e)]
- b. On and after the date specified in 40 CFR 64.7(a) by which the permittee must use monitoring that meets the requirements of 40 CFR 64, the permittee shall submit monitoring reports to the Division in accordance with **SECTION F**. [40 CFR 64.9(a)(1)]
- c. A report for monitoring under 40 CFR 64 shall include, at a minimum, the information required under 40 CFR 70.6(a)(3)(iii) and the following information, as applicable: [40 CFR 64.9(a)(2)]
  - i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; [40 CFR 64.9(a)(2)(i)]
  - ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and [40 CFR 64.9(a)(2)(ii)]
  - iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [40 CFR 64.9(a)(2)(iii)]
  - iv. The threshold for requiring the implementation of a QIP is an accumulation of exceedances or excursions exceeding 3 percent duration of a pollutant-specific emissions unit's operating time for a semiannual reporting period. [40 CFR 64.8(a)]
- d. Refer to **Attachment A** for reporting requirements under 40 CFR 64.
- e. Refer to **SECTION F** for general reporting requirements.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****7. Specific Control Equipment Operating Conditions:**

- a. The permittee shall install, operate, and maintain the control device(s) associated with each emission point according to the manufacturer's specifications and during all times that the associated emission point is operating. [401 KAR 52:020, Section 10]
- b. The permittee shall maintain the pressure drop across each baghouse within the range recommended by the manufacturer or established during the most recent stack test when compliance was demonstrated. [401 KAR 52:020, Section 10]
- c. The permittee shall maintain the pressure drop through the scrubber at EP 025 within the range recommended by the manufacturer or established during the most recent stack test when compliance was demonstrated. [401 KAR 52:020, Section 10]
- d. The permittee shall maintain a log of all maintenance work, bag changes, and types of bags used in the baghouses currently and as they are replaced and shall make them available for inspection. [401 KAR 52:020, Section 10]
- e. The permittee shall install, calibrate at least annually, and maintain a device for the measurement of pressure drop across the fabric filter. The permittee shall monitor the pressure drop for each fabric filter once during each shift except when the associated emission units are not in operation. [401 KAR 52:020, Section 10]
- f. The permittee shall install, calibrate at least annually, and maintain a device for the measurement of pressure drop across the scrubber. The permittee shall monitor the pressure drop once per shift except when the associated emission unit is not in operation. [401 KAR 52:020, Section 10]
- g. The permittee shall maintain calibration records for each monitoring device associated with each piece of control equipment. [401 KAR 52:020, Section 10]
- h. If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. [40 CFR 64.8(c)]
- i. Following implementation of a QIP, upon any subsequent determination pursuant to 40 CFR 64.7(d)(2) the Administrator or the Division may require that the permittee make reasonable changes to the QIP if the QIP is found to have:
  - i. Failed to address the cause of the control device performance problems; or [40 CFR 64.8(d)(1)]
  - ii. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR 64.8(d)(2)]
- j. Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. [40 CFR 64.8(e)]

- k. Refer to **SECTION E.**



**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****EP 030      Haul Roads**

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

Maximum Capacity:            600,000 VMT/yr

Construction Commenced:    1/30/2013

Control Method:                Wet suppression

**APPLICABLE REGULATIONS:****401 KAR 63:010, *Fugitive emissions*****1. Operating Limitations:**

- a. The permittee shall not cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished; or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
  - i. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; [401 KAR 63:010, Section 3(1)(b)]
  - ii. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations. [401 KAR 63:010, Section 3(1)(c)]
  - iii. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
  - iv. The maintenance of paved roadways in a clean condition; or [4(d)01 KAR 63:010, Section 3(1)(e)]
  - v. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water. [401 KAR 63:010, Section 3(1)(f)]
- b. If dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may, based on the cause, type, or amount of a fugitive emission, order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air. [401 KAR 63:010, Section 3(3)]
- c. At all times while in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. [401 KAR 63:010, Section 4(1)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- d. A person shall not cause, suffer, or allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. [401 KAR 63:010, Section 4(3)]

**Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements** (a) and **5. Specific Recordkeeping Requirements** (a).

**2. Emission Limitations:**

The permittee shall not cause, suffer, or allow visible fugitive dust emissions beyond the lot line of the property on which the emissions originate, as determined by Reference Method 22 of Appendix A in 40 C.F.R. Part 60, for: [401 KAR 63:010, Section 3(2)]

- i. More than five (5) minutes of emission time during any sixty (60) minute observation period; or [401 KAR 63:010, Section 3(2)(a)]
- ii. More than twenty (20) minutes of emission time during any twenty-four (24) hour period. [401 KAR 63:010, Section 3(2)(b)]

**Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements** (b) and **5. Specific Recordkeeping Requirements** (b).

**3. Testing Requirements:**

Pursuant to 401 KAR 50:045, Section 1, performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the reasonable precautions taken to prevent particulate matter from becoming airborne on a daily basis. [401 KAR 52:020, Section 10]
- b. If fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property. [401 KAR 52:020, Section 10]
- c. The permittee shall monitor the monthly total Vehicle Miles Traveled (VMT). [401 KAR 52:020, Section 10]
- d. Refer to **SECTION F** for general monitoring requirements.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall maintain a log of the reasonable precautions taken to prevent particulate matter from becoming airborne, on a daily basis. Notation of the operating status, downtime, or relevant weather conditions are acceptable for entry to the log. [401 KAR 52:020, Section 10]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. The permittee shall maintain a log of the following: [401 KAR 52:020, Section 10]
  - i. Any Reference Method 22 performed and field records identified in Reference Method 22.
  - ii. Any corrective action taken and the results.
- c. The permittee shall maintain records of the monthly total Vehicle Miles Traveled (VMT). [401 KAR 52:020, Section 10]
- d. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

Refer to **SECTION F** for general reporting requirements.

**7. Specific Control Equipment Operating Conditions:**

Refer to **SECTION E**.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

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

<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(4)(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(2)(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 (RICE)**

**1. Operating Limitations:**

- a. The permittee shall meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60, Subpart III, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63. [40 CFR 63.6590(c)]
- b. The permittee shall operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205 over the entire life of the engine. [40 CFR 60.4206]
- c. The permittee shall use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel. [40 CFR 60.4207(b)]
- d. The permittee must do all of the following, except as permitted under 40 CFR 60.4211(g): [40 CFR 60.4211(a)]
  - i. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211(a)(1)]
  - ii. Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211(a)(2)]
  - iii. Meet the requirements of 40 CFR part 1068, as applicable. [40 CFR 60.4211(a)(3)]
- e. The permittee shall operate the emergency stationary ICE according to the requirements in 40 CFR 60.4211(f)(1) through (3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, Subpart III, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 60.4211(f)(1) through (3) is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4211(f)(1) through (2), the engine will not be considered an emergency engine under 40 CFR 60, Subpart III and must meet all requirements for non-emergency engines. [40 CFR 60.4211(f)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- i. There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4211(f)(1)]
- ii. The permittee may operate the emergency stationary ICE for the purpose specified in 40 CFR 60.4211(f)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by 40 CFR 60.4211(f)(2). [40 CFR 60.4211(f)(2)]
  - 1) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. [40 CFR 60.4211(f)(2)(i)]
- iii. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 CFR 60.4211(f)(3)]
  - 1) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the conditions in 40 CFR 60.4211(f)(3)(i)(A) through (E) are met. [40 CFR 60.4211(f)(3)(i)]
- f. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance according to 40 CFR 60.4211(g). [40 CFR 60.4211(g)]

**Compliance Demonstration Method:**

- A. For each stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, the permittee shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. [40 CFR 60.4211(g)(2)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

B. For each stationary CI internal combustion engine greater than 500 HP, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. The permittee must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211(g)(3)]

**2. Emission Limitations:**

The permittee shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [40 CFR 60.4205(b)]

**Compliance Demonstration Method:**

The permittee must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 60.4211(c)]

**3. Testing Requirements:**

Pursuant to 401 KAR 50:045, Section 1, performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly diesel usage in gallons; and
  - ii. The monthly hours of operation and purpose of operation.
- b. If the emergency stationary CI internal combustion engine does not meet the standards applicable to non-emergency engines, the permittee shall install a non-resettable hour meter prior to startup of the engine. [40 CFR 60.4209(a)]
- c. Refer to **SECTION F** for general monitoring requirements.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly diesel usage in gallons;
  - ii. The monthly hours of operation and purpose of operation.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. The permittee is not required to submit an initial notification. If the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee shall record the time of operation of the engine and the reason the engine was in operation during that time. [40 CFR 60.4214(b)]
- c. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee shall keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- d. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

- a. If the emergency stationary CI ICE operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), the permittee shall submit an annual report according to the requirements in 40 CFR 60.4214(d)(1) through (3). [40 CFR 60.4214(d)]
- b. Refer to **SECTION F** for general reporting requirements.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****EP 037      Non-Emergency Diesel Air Compressor****Description:**

Model: Doosan HP1600WCU-T4F  
Construction Commenced: 8/1/2019  
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***

**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***

**1. Operating Limitations:**

- a. The permittee must meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60, Subpart III, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63. [40 CFR 63.6590(c)(1)]
- b. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 over the entire life of the engine. [40 CFR 60.4206]
- c. The permittee must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel. [40 CFR 60.4207(b)]
- d. The permittee must do all of the following, except as permitted under 40 CFR 60.4211(g): [40 CFR 60.4211(a)]
  - i. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211(a)(1)]
  - ii. Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211(a)(2)]
  - iii. Meet the requirements of 40 CFR part 1068, as applicable. [40 CFR 60.4211(a)(3)]
- e. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance according to 40 CFR 60.4211(g)(1). [40 CFR 60.4211(g)]



**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Compliance Demonstration Method:**

For each stationary CI internal combustion engine greater than 500 HP, the permittee must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the permittee changes emission-related settings in a way that is not permitted by the manufacturer. The permittee must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [40 CFR 60.4211(g)(3)]

**2. Emission Limitations:**

The permittee must comply with the emission standards for new CI engines in 40 CFR 60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [40 CFR 60.4204(b)]

**Compliance Demonstration Method:**

The permittee must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 60.4211(c)]

**3. Testing Requirements:**

Pursuant to 401 KAR 50:045, Section 1, performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly diesel usage in gallons; and
  - ii. The monthly hours of operation.
- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]
- c. Refer to **SECTION F** for general monitoring requirements.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly diesel usage in gallons; and
  - ii. The monthly hours of operation.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee must keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- c. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

Refer to **SECTION F** for general reporting requirements.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

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

<b>Process ID</b>	<b>Description</b>	<b>Maximum Capacity</b>	<b>Control Equipment</b>	<b>Construction Commenced</b>
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*

**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 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 EP 035-4.

**STATE-ORIGIN REQUIREMENTS:**

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

**1. Operating Limitations:**

- a. The permittee shall not cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished; or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
  - i. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; [401 KAR 63:010, Section 3(1)(b)]
  - ii. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations. [401 KAR 63:010, Section 3(1)(c)]
  - iii. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
  - iv. The maintenance of paved roadways in a clean condition; or [4(d)01 KAR 63:010, Section 3(1)(e)]
  - v. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water. [401 KAR 63:010, Section 3(1)(f)]
- b. If dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may, based on the cause, type, or amount of a

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

fugitive emission, order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air. [401 KAR 63:010, Section 3(3)]

- c. At all times while in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. [401 KAR 63:010, Section 4(1)]
- d. A person shall not cause, suffer, or allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. [401 KAR 63:010, Section 4(3)]

**Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements (b)** and **5. Specific Recordkeeping Requirements (b)**.

- e. For EP 035-4, the permittee must meet the requirements of 40 CFR 63 by meeting the requirements of 40 CFR 60, Subpart III, for compression ignition engines. No further requirements apply for such engines under 40 CFR 63. [40 CFR 63.6590(c)(1)]
- f. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4204 over the entire life of the engine. [40 CFR 60.4206]
- g. The permittee must use diesel fuel that meets the requirements of 40 CFR 1090.305 for nonroad diesel fuel. [40 CFR 60.4207(b)]
- h. The permittee must do all of the following, except as permitted under 40 CFR 60.4211(g): [40 CFR 60.4211(a)]
  - i. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions; [40 CFR 60.4211(a)(1)]
  - ii. Change only those emission-related settings that are permitted by the manufacturer; and, [40 CFR 60.4211(a)(2)]
  - iii. Meet the requirements of 40 CFR part 1068, as applicable. [40 CFR 60.4211(a)(3)]
- i. If the permittee does not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance according to 40 CFR 60.4211(g)(1). [40 CFR 60.4211(g)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Compliance Demonstration Method:**

For each stationary CI internal combustion engine with maximum engine power less than 100 HP, the permittee must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if the permittee does not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or the permittee changes the emission-related settings in a way that is not permitted by the manufacturer, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action. [40 CFR 60.4211(g)(1)]

**2. Emission Limitations:**

- a. The permittee shall not cause, suffer, or allow visible fugitive dust emissions beyond the lot line of the property on which the emissions originate, as determined by Reference Method 22 of Appendix A in 40 C.F.R. Part 60, for: [401 KAR 63:010, Section 3(2)]
  - i. More than five (5) minutes of emission time during any sixty (60) minute observation period; or [401 KAR 63:010, Section 3(2)(a)]
  - ii. More than twenty (20) minutes of emission time during any twenty-four (24) hour period. [401 KAR 63:010, Section 3(2)(b)]

**Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements** (c) and **5. Specific Recordkeeping Requirements** (c).

- b. The permittee shall not allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. [401 KAR 63:020, Section 3]

**Compliance Demonstration Method:**

The Cabinet determines that the source is in compliance with 401 KAR 63:020 based on the rate of emissions of airborne toxics determined by the Cabinet using information provided in the application and any supplemental information submitted by the source.

- c. The permittee must comply with the emission standards for new CI engines in 40 CFR 60.4201 for their 2007 model year and later stationary CI ICE, as applicable. [40 CFR 60.4204(b)]

**Compliance Demonstration Method:**

The permittee must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4204(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 60.4211(c)]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****3. Testing Requirements:**

Pursuant to 401 KAR 50:045, Section 1, performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

**4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly process weight;
  - ii. The monthly total hours of operation; and
  - iii. For EP 035-4, the monthly total diesel usage.
- b. The permittee shall monitor the reasonable precautions taken to prevent particulate matter from becoming airborne on a daily basis. [401 KAR 52:020, Section 10]
- c. If fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property. [401 KAR 52:020, Section 10]
- d. If the stationary CI internal combustion engine is equipped with a diesel particulate filter to comply with the emission standards in 40 CFR 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the permittee when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]
- e. Refer to **SECTION F** for general monitoring requirements.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly process weight;
  - ii. The monthly total hours of operation; and
  - iii. For EP 035-4, the monthly total diesel usage.
- b. The permittee shall maintain a log of the reasonable precautions taken to prevent particulate matter from becoming airborne, on a daily basis. Notation of the operating status, down-time, or relevant weather conditions are acceptable for entry to the log. [401 KAR 52:020, Section 10]
- c. The permittee shall maintain a log of the following: [401 KAR 52:020, Section 10]
  - i. Any Reference Method 22 performed and field records identified in Reference Method 22.
  - ii. Any corrective action taken and the results.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- d. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the permittee must keep records of any corrective action taken after the backpressure monitor has notified the permittee that the high backpressure limit of the engine is approached. [40 CFR 60.4214(c)]
- e. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

Refer to **SECTION F** for general reporting requirements.

**7. Specific Control Equipment Operating Conditions:**

Refer to **SECTION E**.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****Emission Group D – Silica Fume Dust Storage Silos****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.

Design Capacity:                    6,000 tons/yr  
Construction Commenced:        2024  
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.

Combined (EP 039 & 040) Capacity: 25,000 tons/yr  
Construction Commenced:        2024  
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.

Combined (EP 039 & 040) Capacity: 25,000 tons/yr  
Construction Commence:         2024  
Control Equipment:                Bin Vent 3 (BV-3)

**APPLICABLE REGULATIONS:**

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

**STATE-ORIGIN REQUIREMENTS:**

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

**1. Operating Limitations:**

None

**2. Emission Limitations:**

- a. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)]

**Compliance Demonstration Method:**

Refer to **4. Specific Monitoring Requirements (b)** and **5. Specific Recordkeeping Requirements (b)**.

- b. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which



## **SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

is in excess of the quantity specified in 401 KAR 59:010, Appendix A: [401 KAR 59:010, Section 3(2)]

- i. For process weight rates up to 0.5 ton/hr:  $E = 2.34$
- ii. For process weight rates up to 30 ton/hr:  $E = 3.59P^{0.62}$
- iii. For process weight rates in excess of 30 ton/hr:  $E = 17.31P^{0.16}$

Where E = rate of emission in lb/hr and P = process weight rate in tons/hr.

### **Compliance Demonstration Method:**

To demonstrate compliance with the particulate matter emission limitations specified in 401 KAR 59:010, the permittee shall monitor the amounts and types of process weight added to each emission unit. The process weight rate shall be determined by using the tons of material added to each emissions unit in a calendar month divided by the total hours the unit operated that month. The average particulate emissions shall be calculated as follows:

$$PE = \left( \frac{PW \times EF^*}{H} \right) \times (1 - CE)$$

Where:

*PE* = particulate emissions in lb/hr;

*PW* = process weight in tons/month;

*EF* = particulate emission factor in lb/tons of process weight;

\* The particulate emission factor shall be the number determined from AP-42, MSDS, the most recent Division approved stack test, or Division approved value.

*H* = total hours of operation in a month; and

*CE* = Control efficiency

- c. The permittee shall not allow the emission units listed above to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals, and plants. [401 KAR 63:020, Section 3]

### **Compliance Demonstration Method:**

The Cabinet has determined that the source is in compliance with 401 KAR 63:020 based on the rate of emissions of airborne toxics determined by the Cabinet using information provided in the application and supplemental information submitted by the source.

### **3. Testing Requirements:**

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

### **4. Specific Monitoring Requirements:**

- a. The permittee shall monitor the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly process weight;
  - ii. The monthly hours of operation.

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- b. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack once per calendar week while the affected facility is operating. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]
- c. The permittee shall install, calibrate, and maintain according to manufacturers' specification, a monitoring device for the measurement of the pressure drop across each Bin Vent associated with each emission point. The permittee shall also maintain a log of readings. [401 KAR 52:020, Section 10]
- d. Refer to **7. Specific Control Equipment Operating Conditions.**
- e. Refer to **SECTION F** for general monitoring requirements.

**5. Specific Recordkeeping Requirements:**

- a. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
  - i. The monthly and 12-month rolling total process weight;
  - ii. The monthly and 12-month rolling total hours of operation; and
  - iii. MSDS for all materials used.
- b. The permittee shall retain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (b)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]
- c. The permittee shall maintain records of readings of the pressure drop across each Bin Vent associated with each emission point. [401 KAR 52:020, Section 10]
- d. Refer to **SECTION F** for general recordkeeping requirements.

**6. Specific Reporting Requirements:**

Refer to **SECTION F** for general reporting requirements.

**7. Specific Control Equipment Operating Conditions:**

- a. The permittee shall install, operate, and maintain the control device(s) associated with each emission point according to the manufacturer's specifications and during all times that the associated emission point is operating. [401 KAR 52:020, Section 10]
- b. The permittee shall maintain the pressure drop across each Bin Vent within the range recommended by the manufacturer or established during the most recent stack test when compliance was demonstrated. [401 KAR 52:020, Section 10]

**SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- c. Preventive maintenance shall be performed, for all particulate control devices, in accordance with the manufacturers' recommendations. [401 KAR 52:020, Section 10]
- d. The permittee shall maintain a log of all maintenance work, filter changes, and types of filters used in each Bin Vent currently and as they are replaced and shall make them available for inspection. [401 KAR 52:020, Section 10]
- e. The permittee shall install, calibrate at least annually, and maintain a device for the measurement of pressure drop across each Bin Vent. The permittee shall monitor the pressure drop for each Bin Vent once during each shift except when the associated emission units are not in operation. [401 KAR 52:020, Section 10]
- f. The permittee shall maintain calibration records for each monitoring device associated with each piece of control equipment. [401 KAR 52:020, Section 10]
- g. Refer to **SECTION E**.

**SECTION C - INSIGNIFICANT ACTIVITIES**

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. Although these activities are designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. Gas storage tank	NA
2. Diesel fuel storage tank	NA
3. Four Lab fume hoods	NA
4. Ten Portable Heaters (each < 1 MMBtu/hr as applicable) 3 Kerosene, 4 Natural Gas, 3 Electric	401 KAR 59:010 401 KAR 63:020
5. Raw Material Loading	401 KAR 63:010
6. Raw Material Unloading	401 KAR 63:010
7. Coal Pile Storage	401 KAR 63:010
8. Raw Material Pile Storage	401 KAR 63:010
9. Portable Crusher Diesel (1)	401 KAR 59:010 401 KAR 63:020
10. Portable Crusher Electric (2)	NA
11. Natural Gas – Ladle Preheat	401 KAR 59:010 401 KAR 63:020
12. Natural Gas – Ladle Maintenance	401 KAR 59:010 401 KAR 63:020
13. Natural Gas – Stabilizer Heating	401 KAR 59:010 401 KAR 63:020
14. Natural Gas – Product Storage	401 KAR 59:010 401 KAR 63:020
15. Grizzly Screens (8)	401 KAR 63:010
16. Cooling tower	401 KAR 59:010
17. Stabilizer Sizing	401 KAR 59:010
18. Stabilizer Drying	401 KAR 59:010
19. Induction Furnaces #1&2 (EP 044)	401 KAR 59:010 401 KAR 63:020

**SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)**

<u>Description</u>	<u>Generally Applicable Regulation</u>
20. Induction Furnaces #3&4 (EP 045)	401 KAR 59:010 401 KAR 63:020
21. Induction Furnace Casting (EP 046)	401 KAR 59:010 401 KAR 63:020

## **SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS**

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.
2. PM and opacity emissions measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.

## **SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS**

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

## **SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS**

1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
  - a. Date, place as defined in this permit, and time of sampling or measurements;
  - b. Analyses performance dates;
  - c. Company or entity that performed analyses;
  - d. Analytical techniques or methods used;
  - e. Analyses results; and
  - f. Operating conditions during time of sampling or measurement.
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five (5) years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
3. In accordance with the requirements of 401 KAR 52:020, Section 3(1)h, the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
  - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
  - b. To access and copy any records required by the permit;
  - c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].



**SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)**

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.
7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
  - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
  - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.
8. The permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken shall be submitted to the Regional Office listed on the front of this permit. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement does not identify a specific time frame for reporting deviations, prompt reporting, as required by Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, shall be defined as follows:
  - a. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
  - b. For emissions of any regulated air pollutant, excluding those listed in F.8.a., that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
  - c. All deviations from permit requirements, including those previously reported, shall be included in the semiannual report required by F.6.
9. Pursuant to 401 KAR 52:020, Title V permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
  - a. Identification of the term or condition;
  - b. Compliance status of each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent;
  - d. The method used for determining the compliance status for the source, currently and over the reporting period.

**SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)**

- e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
- f. The certification shall be submitted by January 30th of each year. Annual compliance certifications shall be sent to the following addresses:

Division for Air Quality  
Paducah Regional Office  
130 Eagle Nest Drive  
Paducah, KY 42003

U.S. EPA Region 4  
Air Enforcement Branch  
Atlanta Federal Center  
61 Forsyth St. SW  
Atlanta, GA 30303-8960

- 10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the Kentucky Emissions Inventory System (KYEIS) emissions survey is mailed to the permittee.

## **SECTION G - GENERAL PROVISIONS**

### **1. General Compliance Requirements**

- a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020, Section 3(1)(b), and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
  - (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
  - (2) The Cabinet or the United States Environmental Protection Agency (U. S. EPA) determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
  - (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
  - (4) New requirements become applicable to a source subject to the Acid Rain Program.

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

- d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

- e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020, Section 3(1)(c)].
- f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].
- g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- i. All emission limitations and standards contained in this permit shall be enforceable as a practical matter. All emission limitations and standards contained in this permit are enforceable by the U.S. EPA and citizens except for those specifically identified in this permit as state-origin requirements. [Section 1a-15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3) b].
- l. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].
- m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.
- n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3) d.].

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

- o. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3) a.].
- p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.
- q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
  - (1) Applicable requirements that are included and specifically identified in this permit; and
  - (2) Non-applicable requirements expressly identified in this permit.

**2. Permit Expiration and Reapplication Requirements**

- a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six (6) months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].
- b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020, Section 8(2)].

**3. Permit Revisions**

- a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan (SIP) or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
- b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

**SECTION G - GENERAL PROVISIONS (CONTINUED)****4. Construction, Start-Up, and Initial Compliance Demonstration Requirements**

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction/modification of the equipment described herein, emission units **Screening/Sorting System for finished FeSi Product (EP 035), Emergency Diesel Generator #2 (EP 036), Non-Emergency Diesel Air Compressor (EP 037), 6 BH Silo (EP 038), 15/16 BH North Silo (EP 039), and 15/16 BH South Silo (EP 040)** in accordance with the terms and conditions of permit V-23-022.

- a. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.
- b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, notification of the following:
  - (1) The date when construction commenced.
  - (2) The date of start-up of the affected facilities listed in this permit.
  - (3) The date when the maximum production rate specified in the permit application was achieved.
- c. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.
- d. Pursuant to 401 KAR 50:055, Section 2(1)(a), an owner or operator of any affected facility subject to any standard within the administrative regulations of the Division for Air Quality shall demonstrate compliance with the applicable standard(s) within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of such facility. Pursuant to 401 KAR 52:020, Section 3(3)(c), sources that have not demonstrated compliance within the timeframes prescribed in 401 KAR 50:055, Section 2(1)(a), shall operate the affected facility only for purposes of demonstrating compliance unless authorized under an approved compliance plan or an order of the cabinet.
- e. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing must also be conducted in accordance with General Provisions G.5 of this permit.

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

- f. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

**5. Testing Requirements**

- a. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least thirty (30) days prior to the test.
- b. Pursuant to 401 KAR 50:045, Section 5, in order to demonstrate that a source is capable of complying with a standard at all times, any required performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.
- c. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

**6. Acid Rain Program Requirements**

- a. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.
- b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NO<sub>x</sub> compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

**7. Emergency Provisions**

- a. Pursuant to 401 KAR 52:020, Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:

**SECTION G - GENERAL PROVISIONS (CONTINUED)**

- (1) An emergency occurred and the permittee can identify the cause of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - (4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.1-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
  - (5) This requirement does not relieve the source of other local, state or federal notification requirements.
- b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].
- c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].
8. Ozone Depleting Substances
- a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
    - (1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
    - (2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
    - (3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
    - (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.155.
    - (5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156 and 40 CFR 82.157.
    - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
  - b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.



## **SECTION G - GENERAL PROVISIONS (CONTINUED)**

### 9. Risk Management Provisions

- a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to U.S. EPA using the RMP\* eSubmit software.
- b. If requested, submit additional relevant information to the Division or the U.S. EPA.

**SECTION H - ALTERNATE OPERATING SCENARIOS**

N/A

**SECTION I - COMPLIANCE SCHEDULE**

None

## **ATTACHMENT A**

### **Compliance Assurance Monitoring Plan (CAM Plan)**

## BAGHOUSES FOR PM CONTROL

A. Emission Unit

Description: EAF Fabric Filter  
Baghouses

Identification: Baghouses for EP 002, EP 010, and EP 011

Facility: CCMA Calvert City, KY

B. Applicable Regulation, Emission Limits, and Monitoring Requirements

Regulation No.: 401 KAR 61:070

Emission Limits: Opacity limits < 3% as listed in permit V-23-022

Monitoring Requirements: Visible Emissions, Pressure Drop, Fan Amperage, Inspection/Maintenance, Fan Bearing and Motor Bearing Temperature, & Fan Motor Vibration

C. Control Technology

Baghouse

D. Monitoring Approach

The key elements of the monitoring approach are presented in Tables 1, 2, and 3.

E. Reporting Requirements

Excursions and explanation and/or corrective action shall be reported to the field office in a timely manner.

F. Justification

The furnace baghouses control dust from one 22 MVA electric arc furnace, Furnace #6 (EP 002) and two 66 MVA electric arc furnaces, Furnaces #15 and #16 (EP 010 and EP 011). Both are positive pressure baghouses.

The Furnace #6 baghouse has 12 compartments. Air flow is maintained by two induced draft (ID) fans upstream of the baghouse. Only one ID fan is on for the operation of the #6 furnace baghouse. Normally the North ID fan is in operation. The South ID fan is a backup fan. The

capacity for EP 002 Baghouse is 500,000 acfm. When Furnace #6 is not operating the #6 Baghouse is not required to operate.

The Furnace #15/16 baghouse (EP 010/011) has 24 compartments with 216 bags each (with some bags capped). Air flow for EP 010/011 baghouse is maintained by four ID fans upstream of the baghouse. During operations of both furnaces at normal power load, all four ID fans are operating. When one furnace is operating at normal power load a minimum of two ID fans are operating if fan repairs are necessary, otherwise three ID fans are operating. The capacity for EP 010/011 is 1,000,000 acfm.

Visible emissions monitoring was selected as a performance indicator because it is indicative of good operation and maintenance of the baghouse. When a baghouse is operating optimally, there will be little visible emissions from the exhaust. The indicator for visible emissions is when visible emissions are observed. In general, an increase in visible emissions indicates reduced performance of the baghouse (e.g., loose, or torn bags).

If visible emissions are observed, the baghouse maintenance personnel will ascertain the cause of the emissions. They will eliminate the cause of the emission as expeditiously as possible in accordance with good air pollution control practices for minimizing emissions (40 CFR 64.7(d)). Following the repair, a visible emissions test will be conducted. If no emissions are observed, that will be the end of the incident. If emissions are observed, a Method 22 will be conducted.

Pressure drop through the baghouses is monitored continuously. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, or the bags are becoming blinded. However, opacity is a much more sensitive indicator of holes and tears than pressure drop. CCMA's furnace baghouses are reverse air baghouses, and the fans blow into the compartments. The compartments are positive until they reverse to clean, then will go negative for a short time while cleaning.

Pressure drop ranges are used as a diagnostic indicator of a potential problem in the operation of the baghouses, and not necessarily a violation of any emission limit. For the furnace baghouses (EP 002 and EP 010/011), a pressure drop range of 2 to 12 inches water column was selected as the indicator range. This range was selected based on historical data obtained during normal operations and the operating parameters of the baghouse. Brief negative pressure drop readings during BH cleaning are not considered an excursion from the indicator range. Values outside the proposed range of 2 to 12 inches water column will require a visual observation of the baghouse outlets. If visible emissions are observed, CCMA will initiate an investigation as to the cause and initiate corrective action, as necessary. Additional maintenance inspections will be performed at weekly and monthly intervals.

Fan Amperage - Proper operation of the fan is essential for maintaining the required air flow through the baghouse. The fan amperage (amps) setting is selected to be high enough to draw the air required to collect the dust from the melt furnaces. Excess gas supply can cause premature fabric failure due to high pressure. Fan amperage is an indicator of proper fan operation and adequate air flow through the baghouse (the exhaust gas is not bypassing the baghouse). CCMA monitors fan amperage continually through its programmable logic controller (PLC) computer system.

The fans are operated at a high enough setting to draw the required air for dust collection from the three furnaces.

For the EP 010/011 baghouse ID fans, the normal operation of the 1300 hp fans is greater than 105 amps. ID Fan No. 3 was changed as the facility upgraded to a 1500 hp fan and intends to replace the three other ID fans with 1500 hp motors. Therefore, the indicator range for normal operation of the 1300 hp ID fan motor is 105 to 150 amps; and the indicator range for the 1500 hp ID fan motor is lower at 85 to 150 amps. These indicator ranges were set based on the level maintained during normal operations. In the event of an ID fan motor failure, CCMA may replace the motor with a 1300 hp motor or a 1500 hp motor. Therefore, a fan amperage (amp) indicator range is assigned to a motor hp. EP 010/011 typically operates in the 105 to 145 amp range, with an average of 125 amps. During startup, the fans draw 500 to 700 amps until they are at full speed which generally takes 10 to 15 seconds. This is not considered an excursion as the fans do not and cannot continuously operate at the elevated amperage.

The baghouse ID fans on EP 002 are 1250 hp. The normal operating range and indicator range for these fans are the same as the 1300 hp fans on the 15/16 baghouse. Only one ID fan operates at a time for the Furnace 6 baghouse. The North ID fan is the primary fan. The South ID fan is a backup and operates if the North fan is down. When Furnace #6 is not operating the #6 Baghouse is not required to operate.

If the fan(s) is/are operating outside these indicator ranges, a potential problem could include fan damper controller malfunctions or a loss of power to the fan(s). For furnace #6, turn on backup fan, investigate cause of failure, and repair malfunctioning fan.

Baghouse inspection and maintenance (I/M) provide assurance that the baghouse is in good repair and operating properly. Once per day, proper operation of the reverse air fan is verified to ensure that the bags are being cleaned. Proper operation of the cleaning cycle facilitates gas flow through the baghouse and the removal of particulate, and also helps prevent blinding of the filter bags. Other items on the daily I/M checklist include, induced-draft fans, reverse air fan, rotary feeders, cleaning cycle operation, leak check, pneumatic fans and full compartment inspection for bad bags.

When a problem with the baghouse is detected during an inspection, the problem is recorded on the inspection log and corrective action is initiated immediately.

Fan bearing temperature and motor bearing temperature are tracked by the facility to anticipate maintenance or adjustments needed for the fan motors. The facility is proposing fan bearing temperature and motor temperature as new monitoring parameters to demonstrate proper operation of the 15/16 baghouse. High fan bearing and motor temperatures are indicative of excessive friction possibly from too much grease or reduced bearing clearance. The fan bearing and motor bearing temperature indicator range selected for EP 010/011 is up to 175 °F. The bearing temperatures generally range between 60 and 120 °F; however, a lower limit is not required as lower temperatures are caused by the ambient temperature. Maintenance personnel monitor bearing and motor temperature for temperature spikes throughout the day.

Bearing and motor temperature are reported as inboard (IB) and outboard (OB) for each fan, so four temperatures will be monitored every hour. The facility PLC tracks these by measuring the maximum and minimum temperature every hour and averaging them.

Hourly average motor vibration is also tracked by the facility to anticipate needed maintenance or adjustments. The facility is proposing fan vibration as a new monitoring parameter to demonstrate proper operation of the 15/16 baghouse. The indicator range for fan motor vibration on EP 010/011 is 0 to 8 mils. This range was set based on the level maintained during normal operations and manufacturer's specifications.

Other parameters that are continually monitored by CCMA's PLC computer system include furnace temperature, baghouse temperature, and megawatt (MW) usage.

Furnaces #15 and #16 are both ducted to the #15/16 baghouse (EP 010/011). If one of the furnaces is shut down, parameters monitored could be significantly different from when both furnaces are in full operation. Therefore, what was previously presented as Table 1 for the two EAF Baghouses for all three furnaces is now broken into three Tables as follows:

Table 1 presents indicators for the #6 baghouse.

Table 2 presents indicators for the #15/16 baghouse when two furnaces 15 and 16 are operating at normal power load with a minimum of three but typically four ID fans operating. There may be times when one of the fans requires maintenance or repairs. These operating scenarios will not be considered excursions.

Table 3 presents indicators for #15/16 baghouse when only one of the 15 or 16 furnaces are operating at normal power load and with a minimum of two, but typically three ID fans operating. There may be times when one of the fans requires maintenance or repairs. These operating scenarios will not be considered excursions.

Normal power load for each Furnace 15 and Furnace 16 is between 32 MW to 34 MW. When any furnace's power load is reduced, fan amps will decrease. When only one furnace is operating in 15/16 furnace building, and if power load is reduced or if a fan requires maintenance or repair, the number of operating ID fans may be reduced from three to two fans. These operating scenarios will not be considered excursions.

CCMA has a Confidential Power Purchase Agreement (PPA/contract) with Tennessee Valley Authority (TVA). A condition of the contract is that TVA may curtail power. These power curtailments are dictated by TVA. CCMA cannot control when these events occur. Curtailments can occur during the hotter and colder months corresponding with periods of peak demand. However, many other factors could affect when TVA issues curtailments such as, but not limited to, system improvements and/or scheduled or unscheduled repairs or maintenance to substations or transmission system, transmission system overload, or a Force Majeure. During these curtailment periods CCMA has shut down procedures which ensure that such power reductions do not result in excess emissions.



**Table 1**  
Furnace #6 - EAF Fabric Filter Baghouse Monitoring PM

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
Indicator	Visible Emissions	Pressure Drop	Fan Amperage One ID Fan operating	Inspection/ Maintenance
I. Measurement Approach	Visible Emissions Observations. If VE are observed take corrective action. Conduct subsequent VE observation to assure proper operation of the baghouse. If VE are observed, conduct a method 22.	Pressure drop through the baghouse is measured continuously using a differential pressure gauge and continuously through the computer system.	Fan amperage is measured continuously using an amp meter and current transducers (CT) in series.	Daily inspection according to I/M checklist approved by the Division; maintenance performed as needed.
II. Indicator Range	Visible emissions observed Yes or No. Any VE is an excursion. Excursions trigger an inspection, corrective action, and reporting requirements.	Pressure drop Indicator Range is between 2 and 12 in. H <sub>2</sub> O. An excursion is defined as a pressure drop outside the range specified above. Excursions trigger an inspection, corrective action, and reporting requirements.	Fan amperage Indicator Range is between 105 and 150 for 1250 hp ID fan and damper position set to allow for proper ventilation. Fan operation also indicates control device is not being bypassed. An excursion is defined as amps outside the specified range. Excursions trigger an inspection, corrective action, and reporting requirements	An excursion is defined as any deviation from the I/M item. Excursions trigger an inspection, corrective action, and reporting requirements.
III. Performance Criteria				
A. Data Representativeness	Observations are performed at the baghouse exhaust while the baghouse is operating.	Pressure drop across the baghouse is measured at BH compartments. The minimum accuracy of the device is $\pm 0.1$ in. H <sub>2</sub> O.	Fan amperage is measured at the fan by an ammeter. The minimum accuracy is $\pm 1A$ .	Inspections are performed at the baghouse.
B. QA/QC Practices and Criteria	Observer is trained in VE observation.	Pressure gauge calibrated quarterly. Pressure taps checked daily for plugging.	Fans checked during daily inspection.	Qualified personnel perform inspection.
C. Monitoring Frequency	Daily for 90 days and weekly if no visible emissions detected. Resume daily monitoring for 90 days after VE excursions.	Pressure drop is continuously monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime	Fan amps are monitored continuously on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime.	Daily inspection
D. Data Collection Procedures	Historical plant records of VE readings.	The PLC is programmed to continuously record & calculate hourly average pressure drop. PLC/log records. See above.	The PLC is programmed to continuously record & calculate hourly average fan amps. PLC/log records. See above.	Records are maintained to document daily inspections and any corrective actions.
E. Averaging Period	None	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency	None

**Table 2**  
 Furnace #15/16 - EAF Fabric Filter Baghouse Monitoring PM  
 Two Furnaces Operating

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
Indicator	Visible Emissions	Pressure Drop	Fan Amperage 3-4 ID Fans Operating	Inspection/ Maintenance	Fan Bearing and Motor Bearing Temperature	Motor Vibration
I. Measurement Approach	Visible Emissions Observations. If VE are observed take corrective action. Conduct subsequent VE observation to assure proper baghouse operation. If VE are observed, conduct a method 22.	Pressure drop through the baghouse is measured continuously using a differential pressure gauge and continuously through the computer system.	Fan amperage is measured continuously using an amp meter and current transducers (CT) in series.	Daily inspection according to I/M checklist approved by the Division; maintenance performed as needed.	Fan bearing and motor bearing temperature continuously measured with a thermocouple.	Motor vibration continuously measured with a Balmac vibration transmitter.
II. Indicator Range	Visible emissions observed Yes or No. Any VE is an excursion. Excursions trigger an inspection, corrective action, and reporting requirements.	Pressure drop Indicator Range is between 2 and 12 in. H <sub>2</sub> O. An excursion is defined as a pressure drop outside the range specified above. Excursions trigger an inspection, corrective action, and reporting requirements.	Fan amperage ranges based on fan motor size, and damper position set to allow for proper ventilation Operation of 4 ID fans, or 3 fans if one fan requires maintenance or repairs, indicates control device is not being bypassed. An excursion is defined as amps outside ranges specified below. Excursions trigger an inspection, corrective action, & reporting requirements. Indicator Ranges are as follows: <u>ID Fans 1,2,3, and 4</u> When operating a 1300 hp motor: 105 to 150 amps When operating a 1500 hp motor: 85 to 150 amps	An excursion is defined as any deviation from the I/M item. Excursions trigger an inspection, corrective action, and reporting requirements.	The fan bearing and motor bearing temperatures Indicator Range is below 175 °F. An excursion is defined as a temperature above this range. Excursions trigger an inspection, corrective action, and reporting requirements.	Hourly average motor vibration between 0 and 8 mils. An excursion is defined as a vibration outside of this range. Excursions trigger an inspection, corrective action, and reporting requirements.

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
Indicator	Visible Emissions	Pressure Drop	Fan Amperage 3-4 ID Fans Operating	Inspection/ Maintenance	Fan Bearing and Motor Bearing Temperature	Motor Vibration
III Performance Criteria	Observations are performed at the baghouse exhaust while the baghouse is operating.	Pressure drop across the baghouse is measured at the baghouse compartments. The minimum accuracy of the device is $\pm 0.1$ in. H <sub>2</sub> O	Fan amperage is measured at the fan by an ammeter.  The minimum accuracy is $\pm 1A$ .	Inspections are performed at the baghouse.	Fan bearing and motor bearing temperatures is measured by a thermocouple. The minimum accuracy is $\pm 1^{\circ}F$ .	Motor vibration is measured by a Balmac vibration transmitter. The minimum accuracy is $\pm 0.01$ mil.
A. Data Representativeness						
B. QA/QC Practices and Criteria	Observer is trained in VE observation.	Pressure gauge calibrated quarterly. Pressure taps checked daily for plugging.	Fans checked during daily inspection.	Qualified personnel perform inspection.	Temperature is checked with a handheld infrared thermometer in the event of inconsistencies.	Vibration checked with a handheld vibration test in the event of inconsistencies.
C. Monitoring Frequency	Daily for 90 days and weekly if no visible emissions detected. Resume daily monitoring for 90 days after VE excursions.	Pressure drop is continuously monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime. During outages, pressure drop shall be monitored manually and once every hour. The hourly records shall be logged.	Fan amps are monitored continuously on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime. During outages, fan amps shall be monitored manually and once every hour. These hourly records shall be logged.	Daily inspection.	Fan bearing and motor bearing temperatures are monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime.	Motor vibration is monitored continuously on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime.
D. Data Collection Procedures	Historical plant records of VE readings.	The PLC is programmed to continuously record & calculate hourly average pressure drop PLC/log records. See above.	The PLC is programmed to continuously record & calculate hourly average fan amps. PLC/log records. See above.	Records are maintained to document daily inspections and any corrective actions by qualified personnel.	The PLC is programmed to measure the Max. & Min. temperature every hour and averages them. PLC/log records. See above.	The PLC is programmed to continuously record & calculate hourly average motor vibration. PLC/log records. See above.
E. Averaging Period	None	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency	None	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency

**Table 3**  
 Furnace #15/16 - EAF Fabric Filter Baghouse Monitoring PM  
 One Furnace Operating

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
Indicator	Visible Emissions	Pressure Drop	Fan Amperage 2-3 ID Fans Operating	Inspection/ Maintenance	Fan Bearing and Motor Bearing Temperature	Motor Vibration
III. Measure ment Approach	Visible Emissions Observations. If VE are observed take corrective action. Conduct subsequent VE observation to assure proper baghouse operation. If VE are observed, conduct a method 22.	Pressure drop through the baghouse is measured continuously using a differential pressure gauge and continuously through the computer system.	Fan amperage is measured continuously using an amp meter and current transducers (CT) in series.	Daily inspection according to I/M checklist approved by the Division; maintenance performed as needed.	Fan bearing and motor bearing temperature continuously measured with a thermocouple.	Motor vibration continuously measured with a Balmac vibration transmitter.
IV. Indicator Range	Visible emissions observed Yes or No. Any VE is an excursion. Excursions trigger an inspection, corrective action, and reporting requirements.	Pressure drop Indicator Range is between 2 and 12 in. H <sub>2</sub> O. An excursion is defined as a pressure drop outside the range specified above. Excursions trigger an inspection, corrective action, and reporting requirements.	Fan amperage ranges based on fan motor size, and damper position set to allow for proper ventilation Operation of 3 ID fans, or 2 fans if one fan requires maintenance or repairs, indicates control device is not being bypassed. An excursion is defined as amps outside ranges specified below. Excursions trigger an inspection, corrective action, & reporting requirements. Indicator Ranges are as follows: <u>ID Fans 1,2,3, and 4</u> When operating a 1300 hp motor: 105 to 150 amps When operating a 1500 hp motor: 85 to 150 amps	An excursion is defined as any deviation from the I/M item. Excursions trigger an inspection, corrective action, and reporting requirements.	The fan bearing and motor bearing temperatures Indicator Range is below 175 °F. An excursion is defined as a temperature above this range. Excursions trigger an inspection, corrective action, and reporting requirements.	Hourly average motor vibration between 0 and 8 mils. An excursion is defined as a vibration outside of this range. Excursions trigger an inspection, corrective action, and reporting requirements.

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
Indicator	Visible Emissions	Pressure Drop	Fan Amperage 2-3 ID Fans Operating	Inspection/ Maintenance	Fan Bearing and Motor Bearing Temperature	Motor Vibration
III Performance Criteria  F. Data Represent- ativeness	Observations are performed at the baghouse exhaust while the baghouse is operating.	Pressure drop across the baghouse is measured at the baghouse compartments. The minimum accuracy of the device is $\pm 0.1$ in. H <sub>2</sub> O	Fan amperage is measured at the fan by an ammeter.  The minimum accuracy is $\pm 1A$ .	Inspections are performed at the baghouse.	Fan bearing and motor bearing temperatures is measured by a thermocouple. The minimum accuracy is $\pm 1^{\circ}F$ .	Motor vibration is measured by a Balmac vibration transmitter. The minimum accuracy is $\pm 0.01$ mil.
G. QA/QC Practices and Criteria	Observer is trained in VE observation.	Pressure gauge calibrated quarterly. Pressure taps checked daily for plugging.	Fans checked during daily inspection.	Qualified personnel perform inspection.	Temperature is checked with a handheld infrared thermometer in the event of inconsistencies.	Vibration checked with a handheld vibration test in the event of inconsistencies.
H. Monitoring Frequency	Daily for 90 days and weekly if no visible emissions detected. Resume daily monitoring for 90 days after VE excursions.	Pressure drop is continuously monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime. During outages, pressure drop shall be monitored manually and once every hour. The hourly records shall be logged.	Fan amps are monitored continuously on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime. During outages, fan amps shall be monitored manually and once every hour. These hourly records shall be logged.	Daily inspection.	Fan bearing and motor bearing temperatures are monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime.	Motor vibration is monitored continuously on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime.
I. Data Collection Procedures	Historical plant records of VE readings.	The PLC is programmed to continuously record & calculate hourly average pressure drop PLC/log records. See above.	The PLC is programmed to continuously record & calculate hourly average fan amps. PLC/log records. See above.	Records are maintained to document daily inspections and any corrective actions by qualified personnel.	The PLC is programmed to measure the Max. & Min. temperature every hour and averages them. PLC/log records. See above.	The PLC is programmed to continuously record & calculate hourly average motor vibration. PLC/log records. See above.
J. Averaging Period	None	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency	None	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency

## FURNACE BUILDINGS MONITORING PLAN

A. Emission Unit

Description:	Furnace Buildings
Identification:	Furnace Building #6 and Furnace Building #15/#16
Facility:	CCMA Calvert City, KY

B. Applicable Regulation, Emission Limits, and Monitoring Requirements

Regulation No.:	401 KAR 61:070 & 40 CFR 63.11526(b)
Emission Limits:	Opacity <20% (6 min. average) except for one 6 min average per hour <60%
Monitoring Requirements:	Visible Emissions & Fan Amps

C. Control Technology

Furnace Building

D. Monitoring Approach

The key elements of the monitoring approach are presented in Table 4.

E. Reporting Requirements

Excursions and explanation and/or corrective action shall be reported to the field office in a timely manner.

F. Justification

*Visible emissions* monitoring was selected as a performance indicator because it is indicative of good operation of the building capture systems and furnace operations. When the fans, dampers, ductwork, and furnaces are operating properly, there will be minimal visible emissions from the building. The indicator for visible emissions is when visible emissions are observed. In general, an increase in visible emissions indicates reduced performance in the emissions capture system. If visible emissions are observed, maintenance personnel will ascertain the cause of the emissions. They will eliminate the cause of the emission as expeditiously as possible in accordance with good air pollution control practices for minimizing emissions (40 CFR 64.7(d)). Following the repair, a visible emissions test will be conducted. If no emissions are observed, that will be the end of the incident.

*Fan Amperage - Proper operation of the fan* is essential for maintaining the required air flow through the baghouse and proper evacuation of PM from the furnace building. The fan amperage (amps) setting is selected to be high enough to draw the air required to collect the dust from the melt furnaces. Excess gas supply can cause premature fabric failure due to high pressure. Fan amperage is an indicator of proper fan operation and adequate air flow through the baghouse (the exhaust gas is not bypassing the baghouse). CCMA monitors fan amperage continually through its programmable logic controller (PLC) computer system.

**Table 4**  
All Furnace Buildings Monitoring PM

	Indicator No. 1	Indicator No. 2.		
Indicator:	Visible Emissions	Fan Amperage (Also refer to Tables 1, 2 and 3)		
I. Measurement Approach	Weekly visible emissions observation using method 9.	Fan amperage is measured continuously using an amp meter and current transducers (CT) in series.		
II. Indicator Range	<p>The Indicator Range is less than 10% for Smelting/Melting with no auxiliary operations and 15% for Metallurgical treatment with no auxiliary, Metallurgical treatment, Tapping, and Pouring.</p> <p>The excursion is defined as opacity equal to or greater than 10% for Smelting/Melting with no auxiliary operations and 15% for Metallurgical treatment with no auxiliary, Metallurgical treatment, Tapping, and Pouring.</p> <p>Excursions trigger an inspection, corrective action, and reporting requirements.</p>	Fan amperage Indicator Ranges based on fan motor size, and damper position set to allow for proper building ventilation. Fan operation also indicates control device is not being bypassed. An excursion is defined as Amps outside the ranges specified below. Excursions trigger an inspection, corrective action, and reporting requirements.		
		<p>#6 Furnace BH One ID Fan Operates  (See Table 1)</p>	<p>#15/16 Furnace BH Two Furnaces Operate 3-4 ID Fans Operate (See Table 2)</p>	<p>#15/16 Furnace BH One Furnace Operates 2-3 ID Fans Operate (See Table 3)</p>
		<p>North ID Fan 1250 hp: 105 to 150 amps</p>	<p>ID Fans 1,2,3, and 4 When operating a 1300 hp motor: 105 to 150 amps When operating a 1500 hp motor: 85 to 150 amps</p>	<p>ID Fans 1,2,3, and 4 When operating a 1300 hp motor: 105 to 150 amps When operating a 1500 hp motor: 85 to 150 amps</p>
		<p>South ID Fan 1250 hp: 105 to 150 amps</p>		
<p>III. Performance Criteria</p> <p>A. Data Representativeness</p>	<p>Observations are performed at the Furnace Building while Smelting/Melting with no auxiliary operations and/or (Metallurgical treatment with no auxiliary, Metallurgical treatment, Tapping, Pouring) are operating.</p>	<p>Fan amperage is measured at the fan by an ammeter. The minimum accuracy is ±1A.</p>		
<p>B. QA/QC Practices and Criteria</p>	<p>Observer certified in Method 9 reading</p>	<p>Fans checked during daily inspection.</p>		
<p>C. Monitoring Frequency</p>	<p>Weekly</p>	<p>Fan amps are monitored on the PLC and an hourly average report is generated each day. Data gaps may occur during server downtime. During outages, fan amps shall be monitored manually and once every hour. These hourly records shall be logged.</p>		
<p>D. Data Collection Procedures</p>	<p>The VE observation is documented by the trained observer. Maintain historical plant records of Method 9 opacity readings.</p>	<p>The PLC is programmed to continuously record and calculate hourly average fan amps. PLC/log records. See above.</p>		
<p>E. Averaging Period</p>	<p>None</p>	<p>Hourly See C. Monitoring Frequency</p>		



## BAGHOUSES FOR CRUSHING &amp; SIZING OPERATIONS

A. Emission Unit

Description: Fabric Filter Baghouse

Identification: Baghouses for Crushing & Sizing Operations, EP 019, EP 020, and EP 021

Facility: CCMA Calvert City, KY

B. Applicable Regulation, Emission Limits, and Monitoring Requirements

Regulation No.: 401 KAR 59:010, & 401 KAR 61:020

Emission Limits: Opacity & PM limits as listed in permit V-23-022  
For EP 019 < 20%  
For EP 020 & EP 021 < 40%

Monitoring Requirements: Visible Emissions, Inspection/Maintenance, Pressure Drop

C. Control Technology

Baghouse

D. Monitoring Approach

The key elements of the monitoring approach are presented in Table 5.

E. Reporting Requirements

Excursions and explanation and/or corrective action shall be reported to the field office in a timely manner.

F. Justification

The Crushing & Sizing (C&S) baghouses are negative pressure baghouses equipped with one fan each. Currently, C&S #1 & #3 (EP 019) has one negative pressure baghouse with a rated flow of 80,000 acfm. C&S #4 & #8 (EP 02) has one baghouse equipped with one fan with a rated flow of 60,000 acfm. C&S #6 (EP 021) has one baghouse with one fan with a flow of 67,000 acfm.

*Visible emissions* monitoring was selected as a performance indicator because it is indicative of good operation and maintenance of the baghouse. When a baghouse is operating optimally, there will be little visible emissions from the exhaust. In general, an increase in visible emissions indicates reduced performance of the baghouse (e.g., loose or torn bags).

If visible emissions are observed, the baghouse maintenance personnel will ascertain the cause of the emissions. They will eliminate the cause of the emission as expeditiously as possible in accordance with good air pollution control practices for minimizing emissions (40 CFR 64.7(d)). Following the repair, a visible emissions test will be conducted. If no emissions are observed, that will be the end of the incident. If emissions are observed, a Method 9 will be conducted.

*Pressure drop* through the baghouses is monitored continuously. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, or the bags are becoming blinded. However, opacity is a much more sensitive indicator of holes and tears than pressure drop.

Pressure drop ranges are used as a diagnostic indicator of a potential problem in the operation of the baghouses, and not necessarily a violation of any emission limit. For the crushing and sizing operations baghouse, a pressure drop range of -1 to -8 inches water column was selected as the indicator range. This range was selected based manufacture specifications and on historical data obtained during normal operations and the operating parameters of the baghouse. Values outside the proposed range of -1 to -8 inches water column will require a visual observation of the baghouse outlets. If visible emissions are observed, CCMA will initiate an investigation as to the cause and initiate corrective action, as necessary. Additional maintenance inspections will be performed at weekly and monthly intervals.

*Baghouse inspection and maintenance (I/M)* provide assurance that the baghouse is in good repair and operating properly. Weekly inspection of ID fan, baghouse condition and verify proper operation of the cleaning cycle. This will help facilitate gas flow through the baghouse and the removal of particulate, and also helps prevent blinding of the filter bags. Other items on the weekly I/M checklist include induced-draft fans, fan motor, motor belts, rotary feeders, cleaning cycle operation and pressure sensors.

When a problem with the baghouse is detected during an inspection, the problem is recorded on the inspection log and corrective action is initiated immediately.

**Table 5**  
Crushing & Sizing Operations Fabric Filter Baghouse Monitoring PM

	Indicator No. 1	Indicator No. 2	Indicator No. 3
Indicator:	Visible Emissions	Inspection and Maintenance	Pressure Drop
I. Measurement Approach	Weekly visible emissions observation using Method 9.	Weekly inspection according to I/M checklist approved by the Division; maintenance performed as needed	Pressure drop through the baghouse is measured continuously using a differential pressure gauge.
II. Indicator Range	The indicator range is less than 5% opacity from the BH stack for all crushing & sizing operations (EP 019, EP 020 and EP 021) The excursion is defined as opacity equal to or greater than 5% opacity for all crushing & sizing operations (EP 019, EP 020 and EP 021). Excursions trigger an inspection, corrective action (CA) and reporting requirements. After CA, a visible emissions observation will be conducted. If no emissions are observed, that will be the end of the incident. If emissions are observed, a Method 9 will be conducted and reported	An excursion is defined as any deviation from the I/M item.  Excursions trigger an inspection, corrective action, and reporting requirements.	The indicator range is pressure drop between -1 and -8 in. H <sub>2</sub> O.  An excursion is defined as a pressure drop outside the range specified above.  Excursions trigger an inspection, corrective action, and reporting requirements.
III. Performance Criteria			
A. Data Representativeness	Observations are performed at the baghouse exhaust while the baghouse is operating.	Inspections are performed at the baghouse.	Pressure drop across the baghouse is measured at the baghouse compartments. The minimum accuracy of the device is $\pm 0.1$ in. H <sub>2</sub> O.
B. QA/QC Practices and Criteria	Observer certified in Method 9 reading.	Qualified personnel perform inspection.	Pressure gauge calibrated quarterly. Pressure taps checked once per shift for plugging.
C. Monitoring Frequency	Weekly	Weekly	Pressure drop is monitored continuously. The readings records shall be logged.
D. Data Collection Procedures	The VE observation is documented by the trained observer. Historical plant records of Method 9 opacity readings.	Fabric filter inspection and maintenance performed by trained personnel.	Electronic record of pressure differential readings will be made continually. PLC/log records. See above.
E. Averaging Period	None	None	The PLC is programmed to continuously record & calculate hourly average pressure drop PLC/log records.

## VENTURI WET SCRUBBER FOR CRUSHING &amp; SIZING OPERATIONS

A. Emission Unit

Description:	Wet Scrubber
Identification:	Wet Scrubber for Noduloy Crushing, EP 025
Facility:	CCMA Calvert City, KY

B. Applicable Regulation, Emission Limits, and Monitoring Requirements

Regulation No.:	401 KAR 59:010
Emission Limits:	Opacity limits as listed in permit V-23-022
Monitoring Requirements:	Differential Pressure & Fan Amps

C. Control Technology

Wet Scrubber

D. Monitoring Approach

The key elements of the monitoring approach are presented in Table 6.

E. Reporting Requirements

Excursions and explanation and/or corrective action shall be reported to the field office in a timely manner.

F. Justification

The Noduloy C&S is equipped with a venturi wet scrubber with a flow of 35,000 scfm at 68°F.

*Pressure differential* remains fairly constant and reflects normal operation of the liquid flow and gas flow through the system. Pressure differential is particularly important for venturi scrubbers that operate with relatively high-pressure differentials. Decrease in pressure differential indicates decrease in gas or liquid flow or poor liquid distribution; increase in pressure differential indicates clogging or increased gas flow. Wet venturi scrubbers should exhibit a relatively constant pressure differential and liquid flow. Excursions from these constants may be indicative of poor liquid distribution, nozzle erosion or plugging, particle re-entrainment, freezing or plugging of the lines, and scaling.

*Fan Amps.* The purpose of the ID fan in the scrubber system is to transport the contaminated air from the source and through the scrubber to clean and exhaust it. The scrubber fan is not automatically controlled. It is set at the beginning of the operation period. Amps can go as high as 165 within the motor's operating tolerance without causing any problems. Use of a pressure drop and fan amps are good indicators of scrubber performance to ensure proper liquid to particulate matter contact for effective removal of the particulate matter from the air stream. If the scrubber pressure drop falls below the indicator levels, optimum contact between scrubber liquid and particulate matter in the air stream may not be achieved.

**Table 6**  
Venturi Wet Scrubber on Crushing & Sizing Operations Monitoring PM

	Indicator No. 1	Indicator No. 2
Indicator:	Differential Pressure ( $\Delta P$ )	Fan Amps
I. Measurement Approach	Pressure drop once per shift.	Fan amperage is measured continuously using an amp meter and current transducers (CT) in series.
II. Indicator Range *	The Indicator Range is Pressure drop between -4 and -20 in. H <sub>2</sub> O An excursion is defined as a pressure drop outside the range specified above. Excursions trigger an inspection, corrective action, and reporting requirements.	The Indicator Range for fan amps is between 40 and 165. Operation of ID fan indicates control device is not being bypassed. An excursion is defined as amps outside the indicator ranges Excursions trigger an inspection, corrective action, and reporting requirements.
III. Performance Criteria A. Data Representativeness	Pressure drop across the scrubber is measured at the incoming scrubber ductwork before the water is introduced, before the fans, and after the scrubber fins. The minimum accuracy of the device is $\pm 0.1$ in. H <sub>2</sub> O.	Fan amperage is measured at the fan by an ammeter. The minimum accuracy is $\pm 1A$ .
B. QA/QC Practices and Criteria	Pressure gauge is inspected monthly.	Inspection & Maintenance (I/M) which documents records of inspections, problems found, repairs done, and/or corrective action taken. Indicators are calibrated and maintained and operated according to manufacturer's specifications and/or good engineering practice.
C. Monitoring Frequency	Continuous	Continuous
D. Data Collection Procedures	The PLC is programmed to continuously record & calculate hourly average pressure drop PLC/log records.	The PLC is programmed to continuously record & calculate hourly average fan amps. PLC/log records.
E. Averaging Period	Hourly See C. Monitoring Frequency	Hourly See C. Monitoring Frequency

\* Note: Noduloy Crushing and Sizing (EP 025) has not been operational since December 2017.  
Parameters indicator ranges will be reestablished upon startup. Startup date is unknown.