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

Draft

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Nucor Steel Brandenburg**
Mailing Address:	**100 Ronnie Greenwell Commerce Rd Brandenburg, KY 40108**
Source Name:	**Nucor Steel Brandenburg**
Mailing Address:	**100 Ronnie Greenwell Commerce Rd Brandenburg, KY 40108**
Source Location:	**Same as Above**
Permit ID:	**V-25-023**
Agency Interest #:	**162861**
Activity ID:	**APE20250001**
Review Type:	**Title V, Operating**
Source ID:	**21-163-00044**
Regional Office:	**Owensboro Regional Office 3032 Alvey Park Dr. W., Suite 700 Owensboro, KY 42303 (270) 687-7304**
County:	**Meade**
Application Complete Date:	**January 9, 2026**
Issuance Date:	
Expiration Date:	

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

TABLE OF CONTENTS

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action
V-25-023	Renewal	APE20250001	1/09/2026		Renewal Permit; Addition of CAM Plan for 04-01 & 18-03, As-Built changes

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:

BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CEM – Continuous Emission Monitoring
CI – Compression Ignition
CO – Carbon Monoxide
CO_2e – Carbon Dioxide Equivalent
Division – Kentucky Division for Air Quality
EAF – Electric Arc Furnace
GCOP – Good Combustion & Operating Practices
GDF – Gasoline Dispensing Facility
GHG – Greenhouse Gas
GWP – Good Work Practices
HAP – Hazardous Air Pollutant
HP – Horse Power
LMF – Ladle Metallurgical Furnace
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
RICE – Reciprocating Internal Combustion Engine
SEN – Submerged Entry Nozzle
SI – Spark Ignition
SO_2 – Sulfur Dioxide
SSM – Startup, Shutdown, & Malfunction
TDS – Total Dissolved Solids
VOC – Volatile Organic Compounds
MMBtu/hr – million BTU per hour

SECTION B - EMISSION UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Group 1

Emission Unit 01 (EU 01) – Melt Shop,
Emission Unit 02 (EU 02) – Melt Shop Natural Gas Combustion Sources, &
Emission Unit 08 (EU 08) – Scrap Handling System

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 01 (EU 01): Melt Shop						
01-01	Single Shell AC Electric Arc Furnace (EAF)	272 tons steel/hr	1,750,000 tons/yr*	7 oxy-fuel fired burners totaling 119.7 MMBtu/hr	Baghouse (C0101)	2020
01-02	Ladle Metallurgical Furnace	272 tons steel/hr; 250 lbs fluorspar/heat*	1,750,000 tons/yr**	----	Baghouse (C0101)	2020
01-03	Vacuum Degasser	272 tons steel/hr	1,750,000 tons/yr**	----	Baghouse (C0101) /Filter System	2020
01-04	Continuous Caster	420 tons steel/hr	1,750,000 tons/yr**	----	Baghouse (C0101)	2020
01-05	Caster Spray Vent	420 tons steel/hr	1,750,000 tons/yr**	----	None	2020
01-06	Primary Caster Torch Cutoff	420 tons steel/hr	1,750,000 tons/yr**	1.88 MMBtu/hr	None	2020
01-07	Melt Shop Baghouse Dust Silo & Dust Handling System	6.8 tons dust/hr	43,750 tons/yr**	----	Bin Vent Filter (C0107)	2020
01-08B	Tundish Relining Station	1.35 tons refractory/hr	11,826 tons/yr	----	Baghouse (C0101)	2020
01-09A	Ladle Preparation (Dump Station)	36 tons refractory/hr	6,000 tons/yr**	----	Baghouse (C0101)	2020
01-09B	Ladle Preparation (Relining Station)	6 tons refractory/hr	6,000 tons/yr**	----	Baghouse (C0101)	2020
01-10	Furnace Refractory Cleanout	3.13 tons refractory/hr	813 tons/yr**	----	Baghouse (C0101)	2020
01-11	Caster Quench Box	420 tons steel/hr	1,750,000 tons/yr**	----	None	2022
01-12	Secondary Caster Torch Cut Off	420 tons steel/hr	1,750,000 tons/yr**	1.95 MMBtu/hr	None	2022

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

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 02 (EU 02): Melt Shop NG Combustion Sources						
02-01	5 Ladle Preheaters (02-01A, B, C, D, and E) & 2 LMF Ladle Preheaters (02-01F and G)	----	----	5 Ladle Preheaters at 15 MMBtu/hr, each; 2 LMF Ladle Preheaters at 10 MMBtu/hr, each	Baghouse (C0101)	2020
02-03	Tundish Preheaters #1 & #2	----	----	10.9 MMBtu/hr, each	Baghouse (C0101)	2020
02-04	Tundish Dryer	----	----	10.93 MMBtu/hr,	Baghouse (C0101)	2020
02-05	Mandrel Preheaters #1 & #2			5 MMBtu/hr, each	Baghouse (C0101)	2020
02-06	Tundish SEN Preheaters #1 & #2	----	----	1.42 MMBtu/hr, each	Baghouse (C0101)	2020
Emission Unit 08 (EU 08) – Scrap Handling System						
08-04	Scrap Charging	299 tons scrap/hr	1,925,000 tons/yr**	----	Baghouse (C0101)	2020

*Note: These units have an operational limit in **1. Operating Limitations**, below.

**Note: Long-term capacities of these units are bottlenecked by the upstream operational limit on the melt shop.

EU 01 Controls Description:

Controls: Negative Pressure Baghouse (Control ID# C0101). The Melt Shop building is equipped with canopy hoods to capture and vent emissions that are not captured by the direct shell evacuation system to the baghouse.

APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of Significant Deterioration of Air Quality*

401 KAR 59:010, *New Process Operations*

401 KAR 60:005, Section 2(1), **40 C.F.R. 60.1 through 60.19, Table 1 (Subpart A),** *General Provisions*

401 KAR 60:005, Section 2(2)(jj), **40 C.F.R. 60.270a through 60.276a (Subpart AAa),** *Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983, and On or Before May 16, 2022*, applies to EP 01-01 and 01-07.

401 KAR 63:002, Section 2(4)(aaaaa), 40 C.F.R. 63.10680 through 63.10692, Table 1 (Subpart YYYYY), *National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities*

40 CFR 64, *Compliance Assurance Monitoring*

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

1. Operating Limitations:

a. Steel production rate shall not exceed 1,750,000 tons of steel/year on a rolling 12-month basis with the first period beginning on the issuance date of the final permit (V-20-001) from the EAF (EP 01-01) as measured as the total tons of molten metal sent to the caster (EP 01-04). [401 KAR 51:017]

b. The permittee shall not exceed 250 pounds of fluorspar per heat for EP 01-02. [To preclude 401 KAR 51:017, Section 8-16 for Fluorides]

c. Scrap substitutes shall be limited to the following general categories (maybe added to EP 01-01): pig iron, hot briquetted Iron (HBI), direct reduced iron (DRI). [401 KAR 51:017]

d. The permittee shall use commercially available low residual, pre-processed, and inspected scrap. [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (n)** and **5. Specific Recordkeeping Requirements (g)**.

e. The permittee shall operate control equipment and/or implement work practice standards as reasonable precautions to prevent particulate matter from becoming airborne and exiting any opening from the melt shop (EU01) into the open air. Reasonable precautions include, but are not limited to: [401 KAR 51:017]
   i. Downdraft and/or plastic strip air curtains at melt shop (EU01) openings with the potential for fugitive particulate emissions.
   ii. Keeping other doors closed except for pass-through traffic.
   iii. The scrap charge bay door shall be maintained at all times with a plastic strip air curtain covering the top 15 feet of the opening; and
   iv. After removal from the furnaces, all molten slag shall be deposited into slag carrying pots and transported to the designated slag processing area.

f. *Chlorinated plastics, lead, and free organic liquids.* For metallic scrap utilized in the EAF, the permittee shall comply with the requirements in either 40 CFR 63.10685(a)(1) or (2). The permittee may have certain scrap at the facility subject to 40 CFR 63.10685(a)(1) and other scrap subject to 40 CFR 63.10685(a)(2) provided the scrap remains segregated until charge make-up. [40 CFR 63.10685(a)]

g. *Pollution prevention plan.* The permittee shall prepare and implement a Pollution Prevention Plan (PPP) for metallic scrap selection and inspection to minimize the amount of chlorinated plastics, lead, and free organic liquids that are charged to the furnace. The PPP shall be submitted to the Division for approval before startup of the EAF. The permittee must operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the permitting authority within 60 days following disapproval of a plan. The permittee may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by Division. The permittee shall keep a copy of the plan onsite, and the permittee shall provide training on the PPP's requirements to all plant personnel with materials acquisition or inspection duties. Each

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

plan must include the information in 40 CFR 63.10685(a)(1)(i) through (iii): [40 CFR 63.10685(a)(1); 401 KAR 51:017]

i. Specifications that scrap materials must be depleted (to the extent practicable) of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace. [40 CFR 63.10685(a)(1)(i)]
ii. A requirement in the scrap specifications for removal (to the extent practicable) of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel. [40 CFR 63.10685(a)(1)(ii)]
iii. Procedures for determining if the requirements and specifications in 40 CFR 63.10685 (a)(1) are met (such as visual inspection or periodic audits of scrap providers) and procedures for taking corrective actions with vendors whose shipments are not within specifications. [40 CFR 63.10685(a)(1)(iii)]
iv. The requirements of 40 CFR 63.10685(a)(1) do not apply to the routine recycling of baghouse bags or other internal process or maintenance materials in the furnace. These exempted materials must be identified in the pollution prevention plan. [40 CFR 63.10685(a)(1)(iv)]

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (d)** and **(g).**

h. *Restricted metallic scrap.* The permittee shall not charge to a furnace metallic scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components, chlorinated plastics, or free organic liquids. This restriction does not apply to any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed or cleaned to the extent practicable such that the materials do not include lead components, chlorinated plastics, or free organic liquids. This restriction does not apply to motor vehicle scrap that is charged to recover the chromium or nickel content if the permittee meets the requirements in 40 CFR 63.10685(b)(3). [40 CFR 63.10685(a)(2); 401 KAR 51:017]

i. For scrap containing motor vehicle scrap, the permittee shall procure the scrap pursuant to one of the compliance options in 40 CFR 63.10685(b)(1), (2), or (3), for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision. [40 CFR 63.10685(b); 401 KAR 51:017]
   i. *Site-specific plan for mercury switches*. The permittee shall comply with the requirements in 40 CFR 63.10685(b)(1)(i) through (v). [40 CFR 63.10685(b)(1)]
      1) The permittee shall include a requirement in the scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap. [40 CFR 63.10685(b)(1)(i)]
      2) The permittee shall prepare and operate according to a plan demonstrating how the facility will implement the scrap specification in 40 CFR 63.10685(b)(1)(i) for removal of mercury switches. The permittee shall submit the plan to the Division for approval. The permittee shall operate according to this plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the Division within 60 days following disapproval of a plan. The permittee may request approval to revise the

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

plan and may operate according to the revised plan unless and until the revision is disapproved by the Division. The Division may change the approval status of the plan upon 90-days written notice based upon the semiannual compliance report or other information. The plan shall include: [40 CFR 63.10685(b)(1)(ii)]

A. A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from that scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Division, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols; [40 CFR 63.10685(b)(1)(ii)(A)]

B. Provisions for obtaining assurance from scrap providers that motor vehicle scrap provided to the facility meet the scrap specification; [40 CFR 63.10685(b)(1)(ii)(B)]

C. Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and [40 CFR 63.10685(b)(1)(ii)(C)]

D. Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in 40 CFR 63.10685(b)(1)(ii)(C). [40 CFR 63.10685(b)(1)(ii)(D)]

3) The permittee shall require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the facility during the previous year and the basis for the estimate. The Division may request documentation or additional information at any time. [40 CFR 63.10685(b)(1)(iii)]

4) The permittee shall establish a goal for each scrap provider to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under 40 CFR 63.10685(b)(1) may require only the removal of convenience light switch mechanisms, the Division will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal. [40 CFR 63.10685(b)(1)(iv)]

ii. *Option for approved mercury programs.* The permittee shall certify in the notification of compliance status that the permittee participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in 40 CFR 63.10685(b)(2)(i) through (iii). If motor vehicle scrap is purchased from a broker, the

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

permittee shall certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator based on the criteria in 40 CFR 63.10685(b)(2)(i) through (iii). The National Vehicle Mercury Switch Recovery Program and the Vehicle Switch Recovery Program mandated by Maine State law are EPA-approved programs under 40 CFR 63.10685(b)(2) unless and until the Administrator disapproves the program (in part or in whole) under 40 CFR 63.10685(b)(2)(iii). [40 CFR 63.10685(b)(2)]

1) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches; [40 CFR 63.10685(b)(2)(i)]
2) The program has a goal to remove at least 80 percent of mercury switches from the motor vehicle scrap the scrap provider processes. Although a program approved under 40 CFR 63.10685(b)(2) may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and [40 CFR 63.10685(b)(2)(ii)]
3) The program sponsor agrees to submit progress reports to the Administrator no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information. [40 CFR 63.10685(b)(2)(iii)]
4) The permittee shall develop and maintain onsite a plan demonstrating the manner through which the facility is participating in an EPA-approved program. [40 CFR 63.10685(b)(2)(iv)]
    A. The plan shall include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility. [40 CFR 63.10685(b)(2)(iv)(A)]
    B. The permittee shall provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Division, the permittee shall provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols. [40 CFR 63.10685(b)(2)(iv)(B)]
    C. The permittee shall conduct periodic inspections or provide other means of corroboration to ensure that scrap providers are aware of the need for and are

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

implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles. [40 CFR 63.10685(b)(2)(iv)(C)]

iii. *Option for specialty metal scrap.* The permittee shall certify in the notification of compliance status that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches. [40 CFR 63.10685(b)(3)]

j. For scrap that does not contain motor vehicle scrap, the permittee shall procure the scrap pursuant to the following requirements for each scrap provider, contract, or shipment. The permittee may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision. For scrap not subject to the requirements in 40 CFR 63.10685(b)(1) through (3), the permittee shall certify in the annual compliance certification and maintain records of documentation that this scrap does not contain motor vehicle scrap. [40 CFR 63.10685(b)(4)]

Compliance Demonstration Method:
For **1. Operating Limitations (i)** through **(k)**, refer to **4. Specific Monitoring Requirements (n)** and **(o)**, **5. Specific Recordkeeping Requirements (d), (e), (f),** and **(g), 6. Specific Reporting Requirements (f), (g), (h),** and **(i).**

k. The permittee shall install, operate, and maintain a capture system that collects the emissions from the EAF (including charging, melting, and tapping operations) and conveys the collected emissions to a control device for the removal of particulate matter (PM). [40 CFR 63.10686(a); 401 KAR 51:017]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (d), (e), (f), (l)** and **5. Specific Recordkeeping Requirements (a)** and **(g)**, **6. Specific Reporting Requirements (d).**

l. In accordance with 40 CFR 63, Subpart A, the permittee shall develop and implement a written startup, shutdown, and malfunction (SSM) plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard. The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard. The SSM plan shall meet the requirements in 40 CFR 63.6(e)(3). This plan must be developed by the owner or operator before startup of the EAF. [40 CFR 63, Subpart YYYYY, Table 1]

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (g).**

m. The permittee shall prepare and maintain for Emission Points 01-01, 02-01, 02-03, 02-04, 02-05, and 02-06, upon initial compliance demonstration but no later than 180 days after startup, a good combustion and operation practices (GCOP) plan that defines, measures,

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

and verifies the use of operational and design practices determined as BACT for minimizing PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHG emissions. Any revisions to the GCOP plan requested by the Division shall be made and the revisions shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Division's inspection. The plan shall include, but not be limited to: [401 KAR 51:017]

i. A list of combustion optimization practices and a means of verifying the practices have occurred.
ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred.
iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (g)** and **(i)**, and **6. Specific Reporting Requirements (k)**.

n. The permittee shall meet the following design and operational requirements for Emission Points 01-01, 02-01, 02-03, 02-04, 02-05 and 02-06 as the BACT determination for GHG: [401 KAR 51:017]
   i. Install and maintain seals and modern insulation media to minimize heat losses from EAF doors, roof, and any openings around the burners or other equipment traversing through the furnace shell.
   ii. Install, operate, and maintain oxy-fuel burners in accordance with manufacturer's specifications to maximize heat transfer, reduce heat losses, and reduce electrode consumption resulting in high thermal efficiency and reduced electrical energy consumption.
   iii. Employ foamy slag practices to reduce radiation heat losses and increase the electric power efficiency of the EAF.
   iv. Optimize process control operations to reduce electricity consumption through monitoring integration of real-time monitoring of process variables along with real-time control systems for carbon injection and lance oxygen practices.
   v. Implement a preventative maintenance program that is consistent with the manufacturer's instructions for routine and long-term maintenance of equipment important to the operation, including EAF doors, burners, etc.
   vi. Conduct periodic preventive maintenance of gas supply valves in accordance with the manufacturer's recommended procedures and schedule.
   vii. Conduct periodic calibration of gas supply meter in accordance with the manufacturer's recommended procedures and schedule.
   viii. Employ a program for efficient ladle and tundish management to minimize the level of preheating required and maintaining the performance of the ladles and tundishes through proper refractory lining.
   ix. Implement a maintenance and repair program for furnaces, ladles and tundishes to minimize convective and radiant heat losses through proper installation and maintenance of refractory/insulation lining.

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

Compliance Demonstration Method:
Compliance shall be demonstrated as follows:

A. The facility construction shall be completed in accordance with the BACT determination for GHGs and incorporating the design elements listed above. Refer to **6. Specific Reporting Requirements (l)**, below.
B. The permittee shall prepare, maintain, and implement the GCOP plan. Refer to **1. Operating Limitations (m)**.
C. The permittee shall perform testing for PM, PM_{10}, $PM_{2.5}$, and VOC emissions and continuously monitor NO_x, CO, and SO_2 emissions. Refer to **3. Testing Requirements.**

o. The permittee shall maintain the overall capture efficiency of the Melt Shop Building at or above 99% capture efficiency for PM, PM_{10}, and $PM_{2.5}$. [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **3. Testing Requirements (r), 6. Specific Reporting Requirements (i),** and **7. Specific Control Equipment Requirements (g)**.

p. For Emission Points 01-03, 01-05, 01-09 A&B, 01-10, and 01-11 the permittee shall prepare and implement, upon initial compliance demonstration but no later than 180 days after startup, a Good Work Practices (GWP) plan that includes written operating instructions and procedures that specify good operating and maintenance practices and includes, at a minimum, the following specific practices targeting PM, PM_{10}, $PM_{2.5}$, VOC, SO_2, CO, and NOx emission minimization, and a means of verifying the practices have occurred: [401 KAR 51:017]
   i. Tracking material usage to ensure that equipment is operated as designed and correcting any operating or design issues as quickly as possible.
   ii. Employing a preventative maintenance program, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (g)** and **(i)**, and **6. Specific Reporting Requirements (k)**.

q. The permittee shall limit the sulfur content of the EAF feedstock utilizing scrap management and/or shall add appropriate fluxes to the EAF and LMF such that the emission limitations for SO_2 in **2. Emission Limitations (c)** are met. [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (a)**, **5. Specific Recordkeeping Requirements (g)** and **(h)**, and **6. Specific Reporting Requirements (a)** and **(b)**.

r. EPs 02-01, 02-03, 02-04, 02-05, and 02-06 shall be equipped with low NO_x burners (burners designed to maintain 70 lb/MMscf and the standards in **2. Emission Limitations (c)**). [401 KAR 51:017]

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

2. Emission Limitations:

a. ***Opacity Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which: [40 CFR 60.272a;40 CFR 63.10686(b)]

i. Exit from a control device (C0101) and exhibit 3 percent opacity or greater; [40 CFR 60.272a(a)(2)]

ii. From the dust handling system (EP 01-07), exhibit 10 percent opacity or greater. [40 CFR 60.272a(b)]

iii. Exit from any melt shop (EU 01) opening, due solely to the operations of EAF(s) and exhibit 6 percent opacity or greater; [40 CFR 60.272a(a)(3); 40 CFR 63.10686(b)(2)]

iv. Exit from any melt shop (EU 01) opening or stack and exhibit equal to or greater than twenty (20) percent opacity from any building opening or stack. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:

The permittee shall demonstrate compliance with the opacity standards as follows:

A. For **2. Emission Limitations (a)(i)** and **(ii)**, the permittee shall meet the requirements in **3. Testing Requirements, 4. Specific Monitoring Requirements (b), 5. Specific Recordkeeping Requirements (c),** and **6. Specific Reporting Requirements (c).**

B. For **2. Emission Limitations (a)(iii)**, the permittee shall meet the requirements in **3. Testing Requirements, 4. Specific Monitoring Requirements (c)** or **(d)** and **5. Specific Recordkeeping Requirements (c),** and **6. Specific Reporting Requirements (c).**

C. Compliance with **2. Emission Limitations (a)(iv)** is assumed when complying with **2. Emission Limitations (a)(i)-(iii).**

b. ***Particulate Emission Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which exceed the following limits:

i. From a control device (C0101): 0.0052 grains of PM per dry standard cubic foot (gr/dscf); [40 CFR 60.272a(a)(1); 40 CFR 63.10686(b)(1)]

ii. 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), Appendix A]

1) For process weight rates of 0.50 ton/hr or less: 2.34 lb/hr

2) For process weight rates > 0.5 ton/hr up to 30.00 tons/hr: $E = 3.59 * P^{0.62}$

3) For process weight rates > 30.00 tons/hr: $E = 17.3 * P^{0.16}$

Where:

E = the allowable PM emissions rate (pounds/hr)

P = the process weight rate (tons/hr)

iii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following two tables: [401 KAR 51:017]

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

Control Device (Stack)	Emission Units Controlled	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
Baghouse (C0101) Stack	01-01, 01-02, 01-03 (alloy addition), 01-04, 01-08B, 01-09 A&B, 01-10, 02-01, 02-03, 02-04, 02-05, 02-06, 08-04	0.0018 gr/dscf; 25.49 lb/hr; 111.64 ton/yr	0.0052 gr/dscf; 73.64 lb/hr; 322.53 ton/yr	0.0034 gr/dscf; 48.15 lb/hr; 210.88 ton/yr

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
01-03	Vacuum Degasser (under vacuum)	0.008 gr/dscf; 0.06 lb/hr; 0.27 ton/yr	0.008 gr/dscf; 0.06 lb/hr; 0.27 ton/yr	0.008 gr/dscf; 0.06 lb/hr; 0.27 ton/yr
01-05	Caster Spray Vent	12.50 lb/hr; 54.78 tons/yr	2.00 lb/hr; 8.76 tons/yr	0.25 lb/hr; 1.10 ton/yr
01-06	Primary Caster Torch Cutoff	43 lb/MMscf; 0.35 ton/yr	49 lb/MMscf; 0.40 ton/yr	49 lb/MMscf; 0.40 ton/yr
01-07	Melt Shop Baghouse Dust Silo & Dust Handling System	0.005 gr/dscf; 0.077 lb/hr; 0.34 ton/yr	0.005 gr/dscf; 0.077 lb/hr; 0.34 ton/yr	0.005 gr/dscf; 0.077 lb/hr; 0.34 ton/yr
01-11	Caster Quench Box	3.35 lb/hr; 14.7 ton/yr	0.54 lb/hr; 2.35 tons/yr	0.07 lb/hr; 0.29 ton/yr
01-12	Secondary Caster Torch Cutoff	45.8 lb/MMscf; 0.38 ton/yr	51.5 lb/MMscf; 0.43 ton/yr	51.5 lb/MMscf; 0.43 ton/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the particulate emission standards as follows:

A. Compliance with **2. Emission Limitations (b)(i)** and **(ii)** is assumed when complying with **2. Emission Limitations (b)(iii)**.
B. Compliance with **2. Emission Limitations (b)(iii)** will be demonstrated as follows:
   1) For the Melt Shop Baghouse (C0101) stack, the permittee shall meet the requirements in **1. Operating Limitations (a), (c), (d), (m), 3. Testing Requirements (m)** and **(q), 4. Specific Monitoring Requirements (l)** and **(o), 5. Specific Recordkeeping Requirements (a)** and **(g)**, **6. Specific Reporting Requirements (k),** and **7. Specific Control Equipment Operating Conditions.**
   2) For EP 01-03, the permittee shall meet the requirements in **1. Operating Limitations (p)**, **4. Specific Monitoring Requirements (o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k),** and **7. Specific Control Equipment Operating Conditions.**

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

3) For EP 01-05 and EP 01-11, the permittee shall meet the requirements in **1. Operating Limitations (p)**, **4. Specific Monitoring Requirements (o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k)**
4) For EP 01-06 and EP 01-12 compliance with the emission limits is assumed when burning natural gas and meeting the requirements in **5. Specific Recordkeeping Requirements (g)** and **6. Specific Reporting Requirements (l).**
5) For EP 01-07, the permittee shall meet the requirements in **1. Operating Limitations**, **4. Specific Monitoring Requirements (f)** and **(o), 5. Specific Recordkeeping Requirements (g)**, and **7. Specific Control Equipment Operating Conditions.**

c. ***CO, NO_x, SO_2, and GHG Emission Standard:*** Emissions of CO, NO_x, SO_2, and GHG shall not exceed the limits in the following two tables: [401 KAR 51:017]

Control Device (Stack)	Emission Units	BACT for CO*	BACT for NO_x*	BACT for SO_2*	BACT for GHG (CO_2e)
Baghouse (C0101) Stack	01-01, 01-02, 01-04, 01-08 B, 01-09 A&B, 01-10, 02-01, 02-03, 02-04, 02-05, 02-06, 08-04	1.98 lb/ton; 495 lb/hr; 1,733 ton/yr	0.42 lb/ton; 104 lb/hr; 363.8 ton/yr	0.35 lb/ton; 86.63 lb/hr; 303.2 ton/yr	464,088 ton/yr

*Note: BACT lb/ton and lb/hr limits are 30-day rolling averages and ton/yr limit is a 12-month rolling average.

Emission Point	Description	BACT for CO	BACT for NO_x	BACT for SO_2	BACT for GHG (CO_2e)
01-03	Vacuum Degasser (under vacuum)	0.075 lb/ton; 65.63 tons/yr	0.005 lb/ton; 4.38 tons/yr	0.005 lb/ton; 4.38 tons/yr	2,511 ton/yr
01-06	Primary Caster Torch Cutoff	84 lb/MMscf; 0.68 ton/yr	100 lb/MMscf; 0.81 ton/yr	0.6 lb/MMscf; 0.005 ton/yr	975 tons/yr
01-12	Secondary Caster Torch Cutoff	84 lb/MMscf; 0.70 ton/yr	100 lb/MMscf; 0.84 ton/yr	0.6 lb/MMscf; 0.005 ton/yr	1,011 tons/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for CO, NO_x, SO_2, and GHGs as follows:

A. For the Melt Shop Baghouse (C0101) stack, the permittee shall meet the requirements in **1. Operating Limitations (a), (c), (d), (g)** through **(j), (l)** through **(o),** and **(q), 3. Testing Requirements (q), 4. Specific Monitoring Requirements (a)** and **(o), 5. Specific Recordkeeping Requirements (g), (h)** and **(i)**, **6. Specific Reporting**

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

Requirements (a), (b), (k) and **(l),** and **7. Specific Control Equipment Operating Conditions.**

B. For EP 01-03, the permittee shall meet the requirements in **1. Operating Limitations (p)**, **4. Specific Monitoring Requirements (o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k)** and **(l)**, and **7. Specific Control Equipment Operating Conditions.**

C. For EP 01-06, and EP 01-12, compliance with the emission limits is assumed when burning natural gas and meeting the requirements in **5. Specific Recordkeeping Requirements (g)** and **6. Specific Reporting Requirements (l).**

D. For the Melt Shop Baghouse stack, the permittee shall use CEMs to demonstrate compliance with the emission standards listed above as follows:

1) The permittee shall demonstrate continuous compliance with CO emission limits using the following equations:

$$E_{CO} = 4.364 \times 10^{-6} \cdot C_{CO} \cdot V$$

$$E_{CO_{30\ day}} = \sum_{i}^{30} E_{CO_i}$$

$$P_{30\ day} = \sum_{i}^{30} P_i$$

$$X_{CO} = \frac{E_{CO_{30\ day}}}{P_{30\ day}}$$

Where:

E_{CO} = the daily average CO emissions, in lbs CO/hour

C_{CO} = the average CEM CO concentration over 24 hours in ppm

V = the average exhaust rate measured over 24 hours, in scfm.

$E_{CO_{30\ day}}$ = the 30-day rolling average CO emissions, in lbs CO/hour, as the average of all daily average CO emission rates for the preceding 30 operating days

E_{CO_i} = the daily average CO emissions on the *i*th day, lbs CO/hr

$P_{30\ day}$ = the 30-day rolling average production rate, in ton of steel cast/hr, as the average of all of the 24-hour average production rates for the preceding 30 operating days

P_i = the average production rate on the *i*th day, in ton of steel cast/hr during the 24-hour production day

X_{CO} = the 30-day rolling average CO emissions in lbs CO/ton of steel cast

2) The permittee shall demonstrate continuous compliance with total NO_x emission limits using the following equations:

$$E_{NO_x} = 7.17 \times 10^{-6} \cdot C_{NO_x} \cdot V$$

$$E_{NO_{x30\ day}} = \sum_{i}^{30} E_{NO_{xi}}$$

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

$$P_{30\ day} = \sum_{i}^{30} P_i$$

$$X_{NO_x} = \frac{E_{NO_{x30\ day}}}{P_{30\ day}}$$

Where:

E_{NO_x} = the daily average NO_x emissions, in lbs NO_x/hour

C_{NO_x} = the average CEM NO_x concentration over 24 hours in ppm

V = the average exhaust rate measured over 24 hours, in scfm.

$E_{NO_{x30\ day}}$ = the 30-day rolling average NO_x emissions, in lbs NO_x/hour, as the average of all daily average NO_x emission rates for the preceding 30 operating days

$E_{NO_{xi}}$ = the daily average NO_x emissions on the *i*th day, lbs NO_x/hr

X_{NO_x} = the 30-day rolling average NO_x emissions in lbs NO_x/ton of steel cast

3) The permittee shall demonstrate continuous compliance with total SO_2 emission limits using the following equations:

$$E_{SO_2} = 9.974 \times 10^{-6} \cdot C_{SO_2} \cdot V$$

$$E_{SO_{230\ day}} = \sum_{i}^{30} E_{SO_{2i}}$$

$$P_{30\ day} = \sum_{i}^{30} P_i$$

$$X_{SO_2} = \frac{E_{SO_{2\ 30\ day}}}{P_{30\ day}}$$

Where:

E_{SO_2} = the daily average SO_2 emissions, in lbs SO_2/hour

C_{SO_2} = the average CEM concentration over 24 hours in ppm

V = the average exhaust rate measured over 24 hours, in scfm.

$E_{SO_{2\ 30\ day}}$ = the 30-day rolling average SO_2 emissions, in lbs SO_2/hour, as the average of all daily average SO_2 emission rates for the preceding 30 operating days

$E_{SO_{2\ i}}$ = the daily average SO_2 emissions on the *i*th day, lbs SO_2/hr

X_{SO_2} = the 30-day rolling average SO_2 emissions in lbs SO_2/ton of steel cast

d. ***VOC Emission Standard***: Emissions of VOC shall not exceed the limits in the following two tables: [401 KAR 51:017]

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

Control Device (Stack)	Emission Units	BACT for VOC
Baghouse (C0101) Stack	01-01, 01-02, 01-04, 01-08 B, 01-09 A&B, 01-10, 02-01, 02-03, 02-04, 02-05, 02-06, 08-04	0.09 lb/ton; 77.96 tons/yr

Emission Point	Description	BACT for VOC
01-03	Vacuum Degasser (under vacuum)	0.005 lb/ton; 4.38 tons/yr
01-05	Caster Spray Vent	4.4 lb/hr; 19.27 tons/yr
01-06	Primary Caster Torch Cutoff	5.5 lb/MMscf; 0.044 tons/yr
01-12	Secondary Caster Torch Cutoff	5.5 lb/MMscf; 0.046 tons/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for VOC as follows:

A. For the Melt Shop Baghouse (C0101) stack, the permittee shall meet the requirements in **1. Operating Limitations (e), (d), (f), (g)** through **(j), (l),** and **(m), 3. Testing Requirements (q), 4. Specific Monitoring Requirements (n)** and **(o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k)**, and **7. Specific Control Equipment Operating Conditions.**

B. For EP 01-03, the permittee shall meet the requirements in **1. Operating Limitations (p)**, **4. Specific Monitoring Requirements (o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k)**, and **7. Specific Control Equipment Operating Conditions.**

C. For EP 01-05, the permittee shall meet the requirements in **1. Operating Limitations (p)**, **3. Testing Requirements (q), 4. Specific Monitoring Requirements (o), 5. Specific Recordkeeping Requirements (g)** and **(i)**, **6. Specific Reporting Requirements (k)**, and **7. Specific Control Equipment Operating Conditions.**

D. For EP 01-06, and EP 01-12, compliance with the emission limits is assumed when burning natural gas and meeting the requirements in **5. Specific Recordkeeping Requirements (g)** and **6. Specific Reporting Requirements (l).**

3. Testing Requirements:

a. During performance tests required in 40 CFR 60.8, the permittee shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions. [40 CFR 60.275a(a)]

b. When emissions from the EAF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa but controlled by a common capture system and control device, the permittee shall use either or both of the following procedures during a performance test (see also 40 CFR 60.2(e)): [40 CFR 60.275a(b)]

i. Determine compliance using the combined emissions. [40 CFR 60.275a(b)(1)]

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

ii. Use a method that is acceptable to the Administrator and that compensates for the emissions from the facilities not subject to the provisions of 40 CFR 60, Subpart AAa. [40 CFR 60.275a(b)(2)]

c. When emission from the EAF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa, the permittee shall demonstrate compliance with 40 CFR 60.272(a)(3) based on emissions from only the affected facility(ies). [40 CFR 60.275a(c)]

d. In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of 40 CFR 60 or other methods and procedures as specified in 40 CFR 60.275a, except as provided in 40 CFR 60.8(b). [40 CFR 60.275a(d)]

e. The permittee shall determine compliance with the particulate matter standards in 40 CFR 60.272a as follows: [40 CFR 60.275a(e)]
   i. Method 5 shall be used for negative-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF vessel is sampled, the sampling time shall include an integral number of heats. [40 CFR 60.275a(e)(1)]
   ii. Method 9 and the procedures of 40 CFR 60.11 shall be used to determine opacity. [40 CFR 60.275a(e)(3)]
   iii. To demonstrate compliance with 40 CFR 60.272a(a) (1), (2), and (3), the Method 9 test runs on the EU 01 baghouse stack shall be conducted concurrently with the particulate matter test runs on the EU 01 baghouse stack, unless inclement weather interferes. [40 CFR 60.275a(e)(4)]

f. To comply with 40 CFR 60.274a(c), (f), (g), and (h), the permittee shall obtain the information required in these requirements during the particulate matter runs. [40 CFR 60.275a(f)]

g. Any control device subject to the provisions of 40 CFR 60, Subpart AAa shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures. [40 CFR 60.275a(g)]

h. Where emissions from the EAF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa but controlled by a common capture system and control device, the permittee may use any of the following procedures during a performance test: [40 CFR 60.275a(h)]
   i. Base compliance on control of the combined emissions; [40 CFR 60.275a(h)(1)]
   ii. Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of 40 CFR 60, Subpart AAa, or; [40 CFR 60.275a(h)(2)]
   iii. Any combination of the criteria of 40 CFR 60.275a(h)(1) and (h)(2). [40 CFR 60.275a(h)(3)]

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

i. Where emissions from the EAF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa, determinations of compliance with 40 CFR 60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies). [40 CFR 60.275a(i)]

j. Unless the presence of inclement weather makes concurrent testing infeasible, the permittee shall conduct concurrently the performance tests required under 40 CFR 60.8 to demonstrate compliance with 40 CFR 60.272a(a)(1), (2), and (3). [40 CFR 60.275a(j)]

k. For the purpose of 40 CFR 60, Subpart AAa, the permittee shall conduct the demonstration of compliance with 40 CFR 60.272a(a) and furnish the Administrator a written report of the results of the test. This report shall include the following information. [40 CFR 60.276 a(f)]
   i. Facility name and address; [40 CFR 60.276a(f)(1)]
   ii. Plant representative; [40 CFR 60.276a(f)(2)]
   iii. Make and model of process, control device, and continuous monitoring equipment; [40 CFR 60.276a(f)(3)]
   iv. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device; [40 CFR 60.276a(f)(4)]
   v. Rated (design) capacity of process equipment; [40 CFR 60.276a(f)(5)]
   vi. Those data required under 40 CFR 60.274a(h); [40 CFR 60.276a(f)(6)]
      1) List of charge and tap weights and materials; [40 CFR 60.276a(f)(6)(i)]
      2) Heat times and process log; [40 CFR 60.276a(f)(6)(ii)]
      3) Control device operation log; and [40 CFR 60.276a(f)(6)(iii)]
      4) Continuous opacity monitor or Method 9 data. [40 CFR 60.276a(f)(6)(iv)]
   vii. Test dates and test times; [40 CFR 60.276a(f)(7)]
   viii. Test company; [40 CFR 60.276a(f)(8)]
   ix. Test company representative; [40 CFR 60.276a(f)(9)]
   x. Test observers from outside agency; [40 CFR 60.276a(f)(10)]
   xi. Description of test methodology used, including any deviation from standard reference methods; [40 CFR 60.276a(f)(11)]
   xii. Schematic of sampling location; [40 CFR 60.276a(f)(12)]
   xiii. Number of sampling points; [40 CFR 60.276a(f)(13)]
   xiv. Description of sampling equipment; [40 CFR 60.276a(f)(14)]
   xv. Listing of sampling equipment calibrations and procedures; [40 CFR 60.276a(f)(15)]
   xvi. Field and laboratory data sheets; [40 CFR 60.276a(f)(16)]
   xvii. Description of sample recovery procedures; [40 CFR 60.276a(f)(17)]
   xviii. Sampling equipment leak check results; [40 CFR 60.276a(f)(18)]
   xix. Description of quality assurance procedures; [40 CFR 60.276a(f)(19)]
   xx. Description of analytical procedures; [40 CFR 60.276a(f)(20)]
   xxi. Notation of sample blank corrections; and [40 CFR 60.276a(f)(21)]
   xxii. Sample emission calculations. [40 CFR 60.276a(f)(22)]

l. Except as provided in 40 CFR 63.10686(d)(6), the permittee shall conduct performance tests to demonstrate initial compliance with the applicable emissions limit for each emissions source subject to an emissions limit in 40 CFR 63.10686(b). [40 CFR 63.10686(d)]

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

m. The permittee must conduct each PM performance test for the EAF according to the procedures in 40 CFR 63.7, 40 CFR 63.10686(d) and 40 CFR 60.275a using the following test methods in 40 CFR part 60, appendices A-1, A-2, A-3, and A-4: [40 CFR 63.10686(d)(1)]
   i. Method 1 or 1A of appendix A-1 of 40 CFR part 60 to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device prior to any releases of the atmosphere. [40 CFR 63.10686(d)(1)(i)]
   ii. Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A-1 of 40 CFR part 60 to determine the volumetric flow rate of the stack gas. [40 CFR 63.10686(d)(1)(ii)]
   iii. Method 3, 3A, or 3B of appendix A-3 of 40 CFR part 60 to determine the dry molecular weight of the stack gas. The permittee may use ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference – see 40 CFR 63.14) as an alternative to EPA method 3B. [40 CFR 63.10686(d)(1)(iii)]
   iv. Method 4 of appendix A-3 of 40 CFR part 60 to determine the moisture content of the stack gas. [40 CFR 63.10686(d)(1)(iv)]
   v. Method 5 or Method 5D of appendix A-3 of 40 CFR part 60 to determine the PM concentration. Three valid test runs are needed to comprise a PM performance test. For the EAF, sample only when metal is being melted and refined. The sample time and sample volume for each run shall be at least 4 hours and 160 dscf (4.50 dscm) and the sampling time shall include an integral number of heats. [40 CFR 60.275a(e)(1); 40 CFR 63.10686(d)(1)(v)]

n. The permittee shall conduct each opacity test for the melt shop according to the procedures in 40 CFR 63.6(h) and Method 9 of appendix A-4 of 40 CFR part 60. [40 CFR 63.10686(d)(2)]

o. During any performance test, the permittee shall monitor and record the information specified in 40 CFR 60.274a(h) for all heats covered by the test. [40 CFR 63.10686(d)(3)]

p. If the performance tests and/or compliance demonstrations are not conducted at the maximum capacity of the tested unit (EP 01-01) as specified herein, the source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If the source becomes capable of operating at a higher production rate than the production rate demonstrated during a prior performance test, the permittee shall conduct another performance test at the higher rate to demonstrate the source's ability to comply with emissions. [401 KAR 50:045]

q. The permittee shall conduct the following performance tests on the Melt Shop Baghouse (C0101) stack and the Caster Spray Vent (EP 01-05): [401 KAR 51:017]
   i. The permittee shall conduct testing for PM, PM_{10}, and $PM_{2.5}$ on the Melt Shop Baghouse (C0101) stack within 60 days after achieving the maximum production rate at which the EAF (EP 01-01) will be operated, but not later than 180 days after initial startup and annually thereafter for PM, PM_{10}, and $PM_{2.5}$ from the Melt Shop Baghouse (C0101). The permittee shall conduct a performance test for VOC on the Melt Shop Baghouse (C0101) stack within 60 days after achieving production representing normal

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

operation for three (3) consecutive months (100,000 tons/month) at which the EAF (EP 01-01) will be operated, but no later than permit expiration and annually thereafter.

ii. The permittee shall conduct testing for PM, PM_{10}, $PM_{2.5}$, and VOC on the Caster Spray Vent (EP 01-05) within 60 days after achieving the maximum production rate at which the caster will be operated, but not later than 180 days after initial startup and annually thereafter.

iii. The permittee shall use U.S. EPA Methods 201A & 202 for PM, PM_{10}, and $PM_{2.5}$;

iv. The permittee shall use U.S. EPA Method 25 for VOC;

v. The permittee may use an alternate method upon approval from the Division.

vi. These tests shall demonstrate compliance with **2. Emission Limitations** and establish emission factors for each pollutant in lb/ton.

r. The permittee shall, during the testing on the Melt Shop Baghouse (C0101) stack required by **3. Testing Requirements (q)**, verify the direction of airflow through the largest building wall opening closest to the EAF, is inward using a smoke tube and the following procedures: [401 KAR 51:017]

i. The direction of airflow shall be monitored for at least 1 hour, with checks made no more than 10 minutes apart.

ii. The fan RPM/amperage and volumetric flow rate shall be monitored during the test.

s. The exhaust rate of emissions from the baghouse referenced under **2. Emission Limitations** above, is to be determined based upon measurement of flow rates in the caster canopy duct, ladle dryer, tundish deskull area, EAF canopy duct, DEC duct, LMF canopy duct, LMF duct, and VTD, combined, and converted to standard conditions over three 8-hour periods under conditions representative of normal EAF operations. The flow rate measurements shall be determined by EPA Methods 1 through 4. Alternatively, with approval from the Division, the permittee may measure the flow rate from a location that is representative of the total combined flow rate of the system. The permittee shall submit a report to the Division supporting the determination of any revised exhaust rate that is to be used in providing compliance assurance through the formula specified in **2. Emission Limitations** above. The exhaust rate is to be re-determined by the permittee if changes in operating conditions occur that would indicate that the previously-determined exhaust rate is no longer representative of normal operating conditions, and the Division concurs.

t. The permittee shall conduct initial performance tests on the Melt Shop Baghouse (C0101) stack within 60 days after achieving the maximum production rate at which the EAF (EP 01-01) will be operated, but not later than 180 days after initial startup for Lead (Pb) and Fluorides. [401 KAR 51:017]

i. The permittee shall use U.S. EPA Method 12 for Lead (Pb);

ii. The permittee shall use U.S. EPA Method 13A or 13B for Fluorides.

iii. The permittee may use an alternate method upon approval from the Division.

iv. These tests shall establish emission factors for each pollutant in lb/ton.

u. 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.

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

4. Specific Monitoring Requirements:

a. The permittee shall install, maintain, and operate continuous emission monitoring systems for the SO_2, NO_X, and CO concentrations of the gases in the Melt Shop baghouse stack, or other approved locations. The SO_2, NO_X, and CO monitors shall be installed and operated in compliance with Performance Specifications 2 and 4, as contained in 40 CFR Part 60, Appendix B. The span values for the monitors shall be 500 ppm for CO, 50 ppm for SO_2, and 50 ppm for NO_x. The monitors shall be calibrated as specified in Performance Specification 2 for SO_2 and NO_x, and Performance Specification 4 for CO as contained in 40 CFR Part 60 Appendix B. The quality assurance shall follow the requirements of 40 CFR Part 60 Appendix F. [401 KAR 51:017]

b. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer and the owner installs and operates a bag leak detection system according to 40 CFR 60.273a(e). [40 CFR 60.273a(c)(1)(ii)]
   i. Visible emission observations shall be conducted at least once per day of the control device for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with EPA Method 9 of appendix A to 40 CFR 60, or, as an alternative, according to ASTM D7520-16 (incorporated by reference, see 40 CFR 60.17), with the caveats described under Shop opacity in 40 CFR 60.271a. [40 CFR 60.273a(c)(2)]
   ii. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission points relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, EPA Method 9 observations must be made for the point of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in 40 CFR 60.272a(a)(2). [40 CFR 60.273a(c)(3)]

c. A furnace static pressure monitoring device is not required on any EAF equipped with a Direct-shell Evacuation Control (DEC) system if observations of shop opacity are performed by a certified visible emission observer as follows: [40 CFR 60.273a(d)]
   i. At least once per day when the furnace is operating. [40 CFR 60.273a(d)(1)]
   ii. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with EPA Method 9, or, as an alternative, according to ASTM D7520-16 (incorporated by reference, see 40 CFR 60.17), with the caveats described under Shop opacity in 40 CFR 60.271a. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission points relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations must be made for the point of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. [40 CFR 60.273a(d)(3)]

d. Except as provided under 40 CFR 60.274a(e), the permittee shall: [40 CFR 60.274a(b)]

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

i. Monitor and record once per shift the block 15-minute average furnace static pressure (if DEC system is in use, and a furnace static pressure gauge is installed according to 40 CFR 60.274a(f)) and either: [40 CFR 60.274a(b)(1)]
   1) Install, calibrate, and maintain a monitoring device that continuously records the capture system fan motor amperes and damper position(s); [40 CFR 60.274a(b)(1)(i)]
   2) Install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or [40 CFR 60.274a(b)(1)(ii)]
   3) Install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. [40 CFR 60.274a(b)(1)(iii)]

ii. The volumetric flow monitoring device(s) may be installed in any appropriate location in the capture system such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Administrator may require the permittee to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 of appendix A of 40 CFR part 60. [40 CFR 60.274a(b)(2)]

iii. Parameters monitored pursuant to 40 CFR 60.274a(b), excluding damper position, shall be recorded as integrated block averages not to exceed 15 minutes. [40 CFR 60.274a(b)(3)]

e. When the permittee is required to demonstrate compliance with the standards under 40 CFR 60.272a(a)(3) and at any other time that the Administrator may require (under section 114 of the CAA, as amended) the permittee shall, during periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to 40 CFR 60.274a(b), either: [40 CFR 60.274a(c)(1)]

i. Install, calibrate, and maintain a monitoring device that continuously records the fan motor amperes at each damper position, and damper position consistent with 40 CFR 60.274a(h)(5); or[40 CFR 60.274a(c)(1)(i)]

ii. Monitor and record as no greater than 15-minute integrated block average basis the volumetric flow rate through each separately ducted hood; or [40 CFR 60.274a(c)(1)(ii)]

iii. Install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and monitor and record the damper position consistent with 40 CFR 60.274a(h)(5). [40 CFR 60.274a(c)(1)(iii)]

iv. Parameters monitored pursuant to 40 CFR 60.274a(c), excluding damper position, shall be recorded as integrated block averages not to exceed 15 minutes. [40 CFR 60.274a(c)(2)]

v. The permittee may petition the Administrator or Division for reestablishment of these parameters whenever the permittee can demonstrate to the Administrator's or Division’s satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be the appropriate operational range or control set point throughout each applicable

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

period. Operation at values beyond the accepted operational range or control set point may be subject to the requirements of 40 CFR 60.276a(c). [40 CFR 60.274a(c)]

f. Except as provided under 40 CFR 60.274a(e), the permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.*, pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed. [40 CFR 60.274a(d)]

g. The permittee may petition the Administrator to approve any alternative to either the monitoring requirements specified in 40 CFR 60.274a(b) or the monthly operational status inspections specified in 40 CFR 60.274a(d) if the alternative will provide a continuous record of operation of each emission capture system. [40 CFR 60.274a(e)]

h. Except as provided for under 40 CFR 60.273a(d), if emissions during any phase of the heat time are controlled by the use of a DEC system, the permittee shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions. [40 CFR 60.274a(f)]

i. Except as provided for under 40 CFR 60.273a(d), when the permittee of an EAF controlled by a DEC is required to demonstrate compliance with the standard under 40 CFR 60.272a(a)(3), and at any other time the Administrator may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under 40 CFR 60.274a(f). The permittee may petition the Administrator for reestablishment of the pressure whenever the permittee can demonstrate to the Administrator's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. [40 CFR 60.274a(g)]

j. During any performance test required under 40 CFR 60.8, and for any report thereof required by 40 CFR 60.276a(f), or to determine compliance with 40 CFR 60.272a(a)(3), the permittee must monitor the following information for all heats covered by the test: [40 CFR 63.10686(d)(3), 40 CFR 60.274a(h)]
   i. Charge weights and materials and tap weights and materials; [40 CFR 60.274a(h)(1)]

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

ii. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used; [40 CFR 60.274a(h)(2)]
iii. Control device operation log; and [40 CFR 60.274a(h)(3)]
iv. Continuous opacity monitor or EPA Method 9 data, or, as an alternative to EPA Method 9, according to ASTM D7520-16 (incorporated by reference, see 40 CFR 60.17), with the caveats described under Shop opacity in 40 CFR 60.271; [40 CFR 60.274a(h)(4)]
v. All damper positions, no less frequently than performed in the latest melt shop opacity compliance test for a full heat, if selected as a method to demonstrate compliance under 40 CFR 60.274a(b); [40 CFR 60.274a(h)(5)]
vi. Fan motor amperes at each damper position, if selected as a method to demonstrate compliance under 40 CFR 60.274a(b); [40 CFR 60.274a(h)(6)]
vii. Volumetric air flow rate through each separately ducted hood, if selected as a method to demonstrate compliance under 40 CFR 60.274a(b); and [40 CFR 60.274a(h)(7)]
viii. Static pressure at each separately ducted hood, if selected as a method to demonstrate compliance under 40 CFR 60.274a(b). [40 CFR 60.274a(h)(8)]
ix. Parameters monitored pursuant to 40 CFR 60.274a(h)(6) through (8) shall be recorded as integrated block averages not to exceed 15 minutes. [40 CFR 60.274a(h)(9)]

k. The permittee shall monitor the capture system and PM control device required by 40 CFR 63, Subpart YYYYY, maintain records, and submit reports according to the compliance assurance monitoring requirements in 40 CFR part 64. The exemption in 40 CFR 64.2(b)(1)(i) for emissions limitations or standards proposed after November 15, 1990, under section 111 or 112 of the CAA does not apply. In lieu of the deadlines for submittal in 40 CFR 64.5, the permittee shall submit the monitoring information required by 40 CFR 64.4 to the Division for approval by no later than startup of the affected source and operate according to the approved plan by no later than 180 days after the date of approval by the Division. [40 CFR 63.10686(e)]

l. Upon detecting an excursion or exceedance (as defined in the appropriate CAM plan), 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)]

m. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance (as defined in the CAM plan) will be based on information available, which may include but is not limited to, monitoring results, review of operation

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

and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [40 CFR 64.7(d)(2)]

n. The permittee shall inspect each load of scrap as it is received either by truck, railcar, or barge. The permittee shall maintain records of the types and amounts of scrap used during stack tests. The permittee shall use only scrap and scrap mixes that are typical of the scrap used during stack tests when compliance was demonstrated. The scrap shall be largely free of foreign materials such as oil and greases and shall not contain materials likely to have excess organic material. [401 KAR 52:020, Section 10]

o. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The daily, monthly, and 12-month steel production rate (as measured as the total tons of steel cast);
   ii. The amount of carbon charged or injected per heat;
   iii. The amount of fluorspar charged per heat;
   iv. The types of scrap and scrap substitutes charged to the furnace;
   v. The monthly and 12-month rolling process weight rate for each emission point;
   vi. For EP 02-01 through 02-06, the monthly and 12-month rolling natural gas combusted (MMscf). If the permittee elects not to install a fuel metering device to continuously monitor the amount of natural gas fed to each emission point, the permittee may use a combined meter for multiple emission points, as long as the natural gas apportioned to all emission points sums to 100% of the natural gas used;
   vii. For the Melt Shop Baghouse (C0101) stack and EP 01-03, monthly and 12-month rolling emissions of NO_x, CO, and SO_2.

p. At least once per day during Scrap Charging (EP 08-04) activities, the permittee shall perform qualitative monitoring of visible emissions to ensure effective capture by the Melt Shop Baghouse hooding. [401 KAR 51:017]

q. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the following information: [40 CFR 60.274a(a)]
   i. All data obtained under 40 CFR 60.274a(b); and [40 CFR 60.274a(a)(1)]
   ii. All monthly operational status inspections performed under 40 CFR 60.274a(c). [40 CFR 60.274a(a)(2)]

b. Records of the measurements required in 40 CFR 60.274a must be retained for at least 2 years following the date of the measurement. [40 CFR 60.276a(a)]

c. The permittee shall maintain records of all shop opacity observations made in accordance with 40 CFR 60.273a(d). All shop opacity observations in excess of the emission limit specified in 40 CFR 60.272a(a)(3) shall indicate a period of excess emissions, and shall be reported to the Administrator semi-annually, according to 40 CFR 60.7(c). [40 CFR 60.276a(g)]

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

d. In addition to the records required by 40 CFR 63.10, the permittee shall keep records to demonstrate compliance with the requirements for the pollution prevention plan in 40 CFR 63.10685(a)(1) and/or for the use of only restricted scrap in 40 CFR 63.10685(a)(2) and for mercury in 40 CFR 63.10685(b)(1) through (3) as applicable. The permittee shall keep records documenting compliance with 40 CFR 63.10685(b)(4) for scrap that does not contain motor vehicle scrap. [40 CFR 63.10685(c)]

e. If the permittee is subject to the requirements for a site-specific plan for mercury under 40 CFR 63.10685(b)(1), the permittee shall maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered. [40 CFR 63.10685(c)(1)(i)]

f. If the permittee is subject to the option for approved mercury programs under 40 CFR 63.10685(b)(2), the permittee shall maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If the permittee purchases motor vehicle scrap from a broker, the permittee shall maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program. [40 CFR 63.10685(c)(2)]

g. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. Amounts of carbon charged and injected per heat;
   ii. Amounts and types, as well as a general description of, the scrap or scrap substitutes charged to the furnace;
   iii. The maintenance and operating parameters of the control equipment. The parameters shall include recorded pressure drop ranges, and those parameters required to be monitored by 40 CFR 60, Subpart AAa.
   iv. The daily, monthly, and 12-month rolling steel production rate (as measured as the total tons of steel cast);
   v. The amount of fluorspar charged per heat;
   vi. The amount of lime charged per heat;
   vii. The monthly and 12-month rolling process weight rate for each emission point;
   viii. The monthly and 12-month rolling natural gas usage for each combustion emission point;
   ix. The monthly and 12-month rolling emissions of PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHGs in tons;
   x. Monitored parameters for the control devices as required by the approved CAM Plan and **7. Specific Control Equipment Operating Conditions**.
   xi. The training requirements in **1. Operating Conditions (g);**
   xii. The SSM plan developed in accordance with 40 CFR 63, Subpart A, as well as those records required by **1. Operating Conditions (l);**
   xiii. The GCOP plan required by **1. Operating Conditions (m)** as well as any revisions;
   xiv. The GWP plan required by **1. Operating Conditions (p)** as well as any revisions;
   xv. The sulfur content of carbon, as received.

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

h. The permittee shall maintain records of the SO_2, CO, and NO_X (expressed as NO_2) concentrations recorded from the CEMs showing the corresponding steel production data and other data used to provide reasonable assurance of compliance with SO_2, NO_X, and CO emission limitations under the formulas specified in **2. Emission Limitations (c).**

Compliance Demonstration Method. [401 KAR 52:020, Section 10]

i. The permittee shall maintain records of any time that an emission point listed above was not operated according to the GCOP plan or GWP plan required by **1. Operating Conditions (m)** and **(p)** with a description of the situation and actions taken to remedy the issue. [401 KAR 52:020, Section 10]

j. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall provide quarterly written and electronically formatted reports to the Division containing the data provided by the CEMs systems. All reports shall be sent by the 30th day following the end of each calendar quarter and shall be submitted in the format specified by the Division. The averaging periods used for data reporting shall correspond to the averaging periods specified herein for emission limitations. The emissions shall be reported in ppm averaged over 24 hours, 30-day rolling average pounds per hour, 30-day rolling average pounds per ton of steel cast, tons per reporting period, and cumulative tons per year for the preceding consecutive 12-month period. The permittee shall identify the methodology used to determine the above required information in the quarterly reports. NO_X emissions shall be reported as NO_2. A file shall be kept and maintained on the following items: [401 KAR 52:020, Section 10]
   i. Emission measurement;
   ii. Monitor performance testing measurements;
   iii. Performance evaluations;
   iv. Calibration checks;
   v. Adjustments and maintenance performed on the monitoring devices.

b. No later than 30 days after the end of each calendar quarter, the permittee shall submit to the Division a report containing the number of excursions above the SO_2, CO and NO_X emission limitations that are indicated by the methodology established in **2. Emission Limitations (c)**, **Compliance Demonstration Method**. The report shall include the date and time of the excursions, the indicated values of the excursions, and the percentage of EAF (EP 01-01) operating time during which excursions occurred in the calendar quarter. [401 KAR 52:020, Section 10]

c. The permittee shall submit a written report of exceedances of the control device opacity to the Division semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater. [40 CFR 60.276a(b)]

d. Continuous operation at a furnace static pressure that exceeds the operational range or control setting under 40 CFR 60.274a(g), if the permittee elects to install a furnace static

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

pressure monitoring device under 40 CFR 60.274a(f), and either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under 40 CFR 60.274a(c) or operation at flow rates lower than those established under 40 CFR 60.274a(c) may be considered by the Administrator or Division to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Division semiannually. [40 CFR 60.276a(c)]

e. The permittee shall report records required by **5. Specific Recordkeeping Requirements (a)** and **(c)** that exceed established values or limits to the Division semi-annually according to 40 CFR 60.7(c) and **SECTION F**. [40 CFR 60.276a(c) and (g)]

f. For each scrap provider subject to a site-specific mercury reduction plan, the permittee shall submit semiannual progress reports to the Division that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in 40 CFR 63.10685(b)(1)(ii)(A). This information can be submitted in aggregated form and does not have to be submitted for each scrap provider, contract, or shipment. The Division may change the approval status of a site-specific plan following 90-days' notice based on the progress reports or other information. [40 CFR 63.10685(b)(1)(v)]

g. If the permittee is subject to the requirements for a site-specific plan for mercury under 40 CFR 63.10685(b)(1), the permittee shall submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that the permittee has conducted inspections or taken other means of corroboration as required under 40 CFR 63.10685(b)(1)(ii)(C). The permittee may include this information in the semiannual compliance reports required under 40 CFR 63.10685(c)(3). [40 CFR 63.10685(c)(1)(ii)]

h. The permittee shall submit semiannual compliance reports to the Administrator for the control of contaminants from scrap according to the requirements in 40 CFR 63.10(e). The report must clearly identify any deviation from the requirements in 40 CFR 63.10685(a) and (b) and the corrective action taken. The permittee shall identify which compliance option in 40 CFR 63.10685(b) applies to each scrap provider, contract, or shipment. [40 CFR 63.10685(c)(3)]

i. The notification of compliance status required by 40 CFR 63.9(h) must include each applicable certification of compliance, signed by a responsible official, in 40 CFR 63.10690(b)(1) through (6). [40 CFR 63.10690(b)]
   i. For the pollution prevention plan requirements in 40 CFR 63.10685(a)(1): "This facility has submitted a pollution prevention plan for metallic scrap selection and inspection in accordance with 40 CFR 63.10685(a)(1)"; [40 CFR 63.10690(b)(1)]

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

ii. For the restrictions on metallic scrap in 40 CFR 63.10685(a)(2): "This facility complies with the requirements for restricted metallic scrap in accordance with 40 CFR 63.10685(a)(2)"; [40 CFR 63.10690(b)(2)]

iii. For the mercury requirements in 40 CFR 63.10685(b): [40 CFR 63.10690(b)(3)]

1) "This facility has prepared a site-specific plan for mercury switches in accordance with 40 CFR 63.10685(b)(1)"; [40 CFR 63.10690(b)(3)(i)]

2) "This facility participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the EPA Administrator in accordance with 40 CFR 63.10685(b)(2)" and has prepared a plan demonstrating how the facility participates in the EPA-approved program in accordance with 40 CFR 63.10685(b)(2)(iv); [40 CFR 63.10690(b)(3)(ii)]

3) "The only materials from motor vehicles in the scrap charged to an electric arc furnace at this facility are materials recovered for their specialty alloy content in accordance with 40 CFR 63.10685(b)(3) which are not reasonably expected to contain mercury switches"; or [40 CFR 63.10690(b)(3)(iii)]

4) "This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with 40 CFR 63.10685(b)(4)." [40 CFR 63.10690(b)(3)(iv)]

iv. This certification of compliance for the capture system requirements in 40 CFR 63.10686(a), signed by a responsible official: "This facility operates a capture system for each electric arc furnace and argon-oxygen decarburization vessel that conveys the collected emissions to a PM control device in accordance with 40 CFR 63.10686(a)". [40 CFR 63.10690(b)(4)]

v. If applicable, this certification of compliance for the performance test requirements in 40 CFR 63.10686(d)(6): "This facility certifies initial compliance with the applicable emissions limit in 40 CFR 63.10686(a) or (b) based on the results of a previous performance test in accordance with 40 CFR 63.10686(d)(6)". [40 CFR 63.10690(b)(5)]

vi. This certification of compliance for the monitoring requirements in 40 CFR 63.10686(e), signed by a responsible official: "This facility has developed and submitted proposed monitoring information in accordance with 40 CFR part 64". [40 CFR 63.10690(b)(6)]

j. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring under CAM 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)]

k. The permittee shall include, in the semi-annual report, any time that the emission units listed above were not operated according to the GCOP or GWP plan required by **1. Operating Limitations (m)** and **(p)** with a description of the situation and actions taken to remedy the

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

issue. Refer to **5. Specific Recordkeeping Requirements (i)**. [401 KAR 52:020, Section 10]

l. The permittee shall submit, within 180 days of startup, certification that the design elements proposed as BACT for the emission points listed above have been implemented in the final construction. [401 KAR 51:017]

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

7. Specific Control Equipment Operating Conditions:

a. A bag leak detection system shall be installed and continuously operated on all single-stack fabric filters if the permittee elects not to install and operate a continuous opacity monitoring system as provided for 40 CFR 60.273a(c). In addition, the permittee shall meet the visible emissions observation requirements in 40 CFR 60.273a(c). The bag leak detection system must meet the specifications and requirements of 40 CFR 60.273a(e)(1) through (8). [40 CFR 60.273a(e)]

i. The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less. [40 CFR 60.273a(e)(1)]

ii. The bag leak detection system sensor must provide output of relative particulate matter loadings and the permittee shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger.) [40 CFR 60.273a(e)(2)]

iii. The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to 40 CFR 60.273a(e)(4), and the alarm must be located such that it can be heard by the appropriate plant personnel. [40 CFR 60.273a(e)(3)]

iv. For each bag leak detection system required by 40 CFR 60.273a(e), the permittee shall develop and submit to the Division, for approval, a site-specific monitoring plan that addresses the items identified in 40 CFR 60.273a(e)(4)(i) through (v). For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015). The permittee shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following: [40 CFR 60.273a(e)(4)]

1) Installation of the bag leak detection system; [40 CFR 60.273a(e)(4)(i)]
2) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established; [40 CFR 60.273a(e)(4)(ii)]
3) Operation of the bag leak detection system including quality assurance procedures; [40 CFR 60.273a(e)(4)(iii)]
4) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and [40 CFR 60.273a(e)(4)(iv)]
5) How the bag leak detection system output shall be recorded and stored. [40 CFR 60.273a(e)(4)(v)]

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

v. The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable). [40 CFR 60.273a(e)(5)]

vi. Following initial adjustment, the permittee shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Division except as provided for in 40 CFR 60.273a(e)(6)(i) and (ii). [40 CFR 60.273a(e)(6)]

1) Once per quarter, the permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under 40 CFR 60.273a(e)(4). [40 CFR 60.273a(e)(6)(i)]

2) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under 40 CFR 60.273a(c) and the alarm on the bag leak detection system does not sound, the permittee shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made. [40 CFR 60.273a(e)(6)(ii)]

vii. For negative pressure, induced air baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor must be installed downstream of the baghouse and upstream of any wet scrubber. [40 CFR 60.273a(e)(7)]

viii. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 60.273a(e)(8)]

b. For each bag leak detection system installed according to 40 CFR 60.273a(e), the permittee shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under 40 CFR 60.273a(g), the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following: [40 CFR 60.273a(f)]

i. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions; [40 CFR 60.273a(f)(1)]

ii. Sealing off defective bags or filter media; [40 CFR 60.273a(f)(2)]

iii. Replacing defective bags or filter media or otherwise repairing the control device; [40 CFR 60.273a(f)(3)]

iv. Sealing off a defective baghouse compartment; [40 CFR 60.273a(f)(4)]

v. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and [40 CFR 60.273a(f)(5)]

vi. Shutting down the process producing the particulate emissions. [40 CFR 60.273a(f)(6)]

c. In approving the site-specific monitoring plan required in 40 CFR 60.273a(e)(4), the Division may allow the permittee more than 3 hours to alleviate specific conditions that cause an alarm if the permittee identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable. [40 CFR 60.273a(g)]

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

d. The permittee shall maintain the following records for each bag leak detection system required under 40 CFR 60.273a(e): [40 CFR 60.276a(h)]
   i. Records of the bag leak detection system output; [40 CFR 60.276a(h)(1)]
   ii. Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and [40 CFR 60.276a(h)(2)]
   iii. An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm. [40 CFR 60.276a(h)(3)]

e. The control devices associated with the emission units listed above shall be properly maintained, kept in good operating condition, used in conjunction with operation of the underlying emission units and operated consistent with the manufacturer's specifications. [401 KAR 51:017]

f. For Melt Shop Baghouse Dust Silo & Dust Handling System (EP 01-07): The permittee shall install, operate and maintain a dust collector designed to control particulate grain loading to 0.005 grain/dscf and the flow rate to 1,800 dscf/min. [401 KAR 51:017]

g. For the Melt Shop Baghouse (C0101), the permittee shall continuously monitor the volumetric flow rate in the stack, and maintain the 24-hour average volumetric flow rate (in standard conditions) to within ±10 percent of the level measured for each operating mode during the testing required in **3. Testing Requirements (r)**. [401 KAR 51:017]

h. The permittee shall maintain records of the manufacturer's specifications for each control device identified in the table above, identifying the grain loading, control efficiency, and flow rate for which each control device was designed. The fabric filters shall be designed to achieve the BACT limits in **2. Emission Limitations.** [401 KAR 51:017]

i. The permittee shall install, calibrate, maintain and operate, according to manufacturer's specifications, a continuous monitoring device (differential pressure gauges or manometers) to determine the pressure drop across the Melt Shop Baghouse (C0101) during the operation of the unit. A permanent label displaying the operating range established for the baghouse shall be posted next to the selected instrument. [401 KAR 51:017]

j. Scrap Charging (EP 08-04) shall only be performed inside the Melt Shop such that emissions are controlled by the Melt Shop Baghouse (C0101). If visible emission observations during charging indicate that emissions from this activity are escaping capture, the activity shall be moved further into the Melt Shop until the emissions no longer escape. [401 KAR 51:017]

k. Refer to **SECTION E.**

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

Group 2

Emission Unit 03 (EU 03) - Hot Rolling Mill,
Emission Unit 04 (EU 04) – Continuous Heat Treat Line,
Emission Unit 05 (EU 05) – Heavy Plate Processing,
Emission Unit 12 (EU 12) – Slag Processing,
Emission Unit 15 (EU 15) – Miscellaneous Equipment,
Emission Unit 17 (EU 17) – Light Plate Finishing Line, &
Emission Unit 18 (EU 18) – Blast and Prime Line

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 03 (EU 03): Hot Rolling Mill						
03-01	Walking Beam Reheat Furnace	333 tons/hr	1,750,000 tons/yr*	460 MMBtu/hr	Low-NO_x burners (inherent)	2020
03-02	Ingot Bogie Hearth Furnaces #1 & #2	----	----	41 MMBtu/hr each	Low-NO_x burners (inherent)	2020
03-03	Roughing Mill Stand with Descaler	333 tons/hr	1,750,000 tons/yr**; 85.4 ton/yr* oil & grease	----	Wet Suppression	2020
03-04	Steckel Mill Finishing Stand	250 tons/hr	1,750,000 tons/yr**; 128.55 ton/yr* oil & grease	----	Wet Scrubber (C0304)	2020
03-05	Steckel Mill Coiling Furnaces #1 & #2	----	----	11.2 MMBtu/hr, each	Low-NO_x burners (inherent)	2020
03-06	Coil Sample Plasma Cutter	250 tons/hr	250,000 tons/yr**	----	Baghouse (C0306)	2022
03-07	Coil Tagger	250 tons/hr	250,000 tons/yr**	----	None	2022
03-10	Ingot Grinding	225 tons/hr	1,860,000 tons/yr	----	Baghouse (C0310)	2024
03-11	Ingot Grinding Oxy-Fuel Cutting Torch	225 tons/hr	1,860,000 tons/yr	----	None	2024

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

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 04 (EU 04): Continuous Heat Treat Line						
04-01	Shot Blaster	50 tons/hr	339,000 tons/yr	----	Baghouse (C0401)	2020
04-03	Tempering Furnace	----	----	43.48 MMBtu/hr	Low-NO_x burners (inherent)	2022
04-04	Continuous Heat Treat Plasma Torch Cutting	50 tons/hr	339,000 tons/yr	----	Dust Collector (C0404)	2022
04-05	Continuous Heat Treat Entry Tagger	125 ton/hr	339,000 tons/yr	----	None	2022
04-06	Continuous Heat Treat Exit Tagger	125 ton/hr	339,000 tons/yr	----	None	2022
Emission Unit 05 (EU 05): Heavy Plate Processing						
05-01	Heavy Plate Car Bottom Furnaces #1 - #4	----	----	46 MMBtu/hr, each	Low-NO_x burners (inherent)	2020
05-03	Heavy Plate Cutting Beds #1 & #2 (Plasma Torch & Oxy-Fuel Torches)	440 tons/hr for Plasma Torch	180,000 tons/yr	----	Baghouses (C0503A, B)	2022
		275 tons/hr for Oxy-Fuel torches (8); 0.00014 MMscf/hr	268,750 tons/yr; 1.2264 MMscf/yr			
Emission Unit 12 (EU 12) – Slag Processing						
12-04	Slag Plant Oxy Fuel-Fired Handheld and Track Torches	12 tons/hr	105,120 tons/yr; 86.7 MMscf/yr	----	Baghouse (C1204)	2022
Emission Unit 17 (EU 17) – Light Plate Finishing Line						
17-01 A & B	Two (2) Light Plate Cutting Beds #1 - #2 (Plasma Cutters & Oxy-Fuel Torches)	500 ton/hr	317,000 ton/yr	----	Baghouses (C1701A, B, C, D)	2022
17-02	Light Plate Tagger	250 ton/hr	711,000 ton/yr	----	None	2022

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

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 18 (EU 18) – Blast and Prime Line						
18-01	Paint System Preheater	----	----	2.39 MMBtu/hr	None	2022
18-02	Paint System Shot Blaster	429 ton/hr	132,000 ton/yr***		Baghouse (C1802)	2022

*Note: These units have an operational limit in **1. Operating Limitations**, below.
**Note: Long-term capacities of these units are bottlenecked by the upstream operational limit on the melt shop.
***Note: limited to the rate that a crane can load steel to the line.

APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of significant deterioration of air quality*
401 KAR 59:010, *New process operations*

STATE-ORIGIN REQUIREMENTS:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*

1. **Operating Limitations:**
   a. The permittee shall use only natural gas as fuel in EPs 03-01, 03-02, 03-05, 04-03 and 05-01. [401 KAR 51:017]

   b. EPs 03-01, 03-02, 03-05, 04-03, and 05-01 shall be equipped with low NO_x burners designed to achieve the following values and the NO_x standards in **2. Emission Limitations (c)**. [401 KAR 51:017].

Emission Point	NO_x Standard (lb/MMBtu)
03-01	0.07
04-03	0.16
03-02	0.12
03-05	0.08
05-01	0.08

   c. For EP 03-01, the total natural gas use shall not exceed 262.4 MMcf/month, averaged over a three-month rolling period, and 3,111 MMcf/yr on a 12-month rolling basis. [401 KAR 51:017]

   d. For EP 03-03, the annual oil and grease consumption, on a 12-month rolling basis, shall not exceed 85.4 tons/yr. [401 KAR 51:017]

   e. For EP 03-04, the annual oil and grease consumption, on a 12-month rolling basis, shall not exceed 128.5 tons/yr. [401 KAR 51:017]

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

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (a)**, **5. Specific Recordkeeping Requirements (a),** and **6. Specific Reporting Requirements (b).**

f. For EP 03-03, 03-04, 03-06, 03-07, 03-10, 03-11, 04-01, 04-04, 04-05, 04-06, 05-03, 12-04, 17-01 A&B, 17-02, and 18-02 the permittee shall prepare and implement, upon initial compliance demonstration but no later than 180 days after startup, a Good Work Practices (GWP) plan that includes written operating instructions and procedures that specify good operating and maintenance practices and includes, at a minimum, the following specific practices targeting PM, PM_{10}, $PM_{2.5}$, NO_x, and VOC emission minimization, and a means of verifying the practices have occurred: [401 KAR 51:017]
   i. For EP 03-03 and 03-04, performing periodic maintenance to minimize leaks of oil and grease from seals and bearings.
   ii. Tracking material usage to ensure that equipment is operated as designed and correcting any operating or design issues as quickly as possible.
   iii. Employing a preventative maintenance program, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (c), 5. Specific Recordkeeping Requirements (a)** and **(c)**, and **6. Specific Reporting Requirements (a) a**nd **(b)**.

g. The permittee shall prepare and maintain for EP 03-01, 03-02, 03-05, 04-03, 05-01, and 18-01, upon initial compliance demonstration but no later than 180 days after startup, a good combustion and operation practices (GCOP) plan that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHG emissions. Any revisions to the GCOP plan requested by the Division shall be made and the revisions shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Division's inspection. The plan shall include, but not be limited to: [401 KAR 51:017]
   i. A list of combustion optimization practices and a means of verifying the practices have occurred.
   ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred.
   iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (a)** and **(b)**, and **6. Specific Reporting Requirements (a)** and **(b)**.

h. The permittee shall meet the following design and operational requirements for EP 03-01, 03-02, 03-05, 04-03, and 05-01 as the BACT determination for GHG: [401 KAR 51:017]
   i. Use only pipeline quality natural gas.

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

ii. The facility design shall include low-NOx recuperative burners to preheat the combustion air with heat from the exhaust gas.
iii. Conduct periodic calibration of gas supply system in accordance with manufacturer's recommended procedures and schedule.
iv. Conduct periodic thermography readings of furnace shell in areas recommended by the manufacturer and according to the schedule recommended by the manufacturer (at least annually).
v. Install and maintain seals and modern insulation media to minimize heat losses from the furnace hearth, upper and lower sidewalls, doors, roof, and any openings around the burners or other equipment traversing through the furnace shell.
vi. Maintain gas supply valves in accordance with the manufacturer's recommended procedures and schedule.
vii. Install, operate, and maintain a combustion system that includes air-to-fuel ratio control for improved fuel efficiency.
viii. Implement burner temperature control to achieve optimum temperature uniformity.

Compliance Demonstration Method:
Compliance shall be demonstrated as follows:
A. The facility construction shall be completed in accordance with the BACT determination for GHGs and incorporating the design elements listed above. Refer to **6. Specific Reporting Requirements (b)**, below.
B. The permittee shall prepare, maintain, and implement the GCOP plan. Refer to **1. Operating Limitations (g)**.

2. Emission Limitations:

a. ***Opacity Standard:*** 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)(a)]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (b)** and **5. Specific Recordkeeping Requirements (a).**

b. ***Particulate Emission Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which exceed the following limits:
i. 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), Appendix A]
1) For process weight rates of 0.50 ton/hr or less: 2.34 lb/hr
2) For process weight rates > 0.5 ton/hr up to 30.00 tons/hr: $E = 3.59 * P^{0.62}$
3) For process weight rates > 30.00 tons/hr: $E = 17.3 * P^{0.16}$
Where:
E = the allowable PM emissions rate (pounds/hr)
P = the process weight rate (tons/hr)

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

ii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
03-01	Walking Beam Reheat Furnace (Including Cold Starts)	1.9 lb/MMscf; 3.03 ton/yr	7.6 lb/MMscf; 12.06 ton/yr	7.6 lb/MMscf; 12.06 ton/yr
03-02	Ingot Bogie Hearth Furnaces #1 & #2	1.9 lb/MMscf; 0.67 ton/yr	7.6 lb/MMscf; 2.68 ton/yr	7.6 lb/MMscf; 2.68 ton/yr
03-03	Roughing Mill Stand with Descaler	0.81 lb/hr; 3.54 ton/yr	0.92 lb/hr; 4.04 ton/yr	0.36 lb/hr; 1.57 ton/yr
03-04	Steckel Mill Finishing Stand (stack & uncaptured emissions)	0.005 gr/dscf; 3.72 lb/hr; 16.28 ton/yr	0.005 gr/dscf; 3.28 lb/hr; 14.36 ton/yr	0.0025 gr/dscf; 1.40 lb/hr; 6.13 ton/yr
03-05	Steckel Mill Coiling Furnaces #1 & #2	1.9 lb/MMscf; 0.18 ton/yr	7.6 lb/MMscf; 0.73 ton/yr	7.6 lb/MMscf; 0.73 ton/yr
03-06	Coil Sample Plasma Cutter	0.0029 lb/in cut; 0.022 ton/yr	0.0029 lb/in cut; 0.022 ton/yr	0.0029 lb/in cut; 0.022 ton/yr
03-07	Coil Tagger	0.016 lb/hr; 0.008 ton/yr	0.016 lb/hr; 0.008 ton/yr	0.016 lb/hr; 0.008 ton/yr
03-10	Ingot Grinding	0.005 gr/dscf; 2.07 lb/hr; 9.07 ton/yr	0.005 gr/dscf; 2.07 lb/hr; 9.07 ton/yr	0.0025 gr/dscf; 1.04 lb/hr; 4.54 ton/yr
03-11	Ingot Grinding Oxy-Fuel Cutting Torch	163 lb/MMscf; 0.33 ton/yr	169 lb/MMscf; 0.34 ton/yr	169 lb/MMscf; 0.34 ton/yr
04-01	Shot Blaster	0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr	0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr	0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr
04-03	Tempering Furnace	1.9 lb/MMscf; 0.35 ton/yr	7.6 lb/MMscf; 1.42 ton/yr	7.6 lb/MMscf; 1.42 ton/yr
04-04	Continuous Heat Treat Plasma Torch Cutting	0.0053 lb/in cut; 0.35 ton/yr	0.0053 lb/in cut; 0.35 ton/yr	0.0053 lb/in cut; 0.35 ton/yr
04-05	Continuous Heat Treat Entry Tagger	0.0001 lb/hr; 0.00013 ton/yr	0.0001 lb/hr; 0.00013 ton/yr	0.0001 lb/hr; 0.00013 ton/yr
04-06	Continuous Heat Treat Exit Tagger	0.002 lb/hr; 0.002 ton/yr	0.002 lb/hr; 0.002 ton/yr	0.002 lb/hr; 0.002 ton/yr
05-01	Heavy Plate Car Bottom Furnaces #1 - #4	1.9 lb/MMscf; 1.50 ton/yr	7.6 lb/MMscf; 6.0 ton/yr	7.6 lb/MMscf; 6.0 ton/yr

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

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
05-03	Heavy Plate Cutting Beds #1 & #2	0.0067 lb/in cut; 41 lb/MMscf (Oxy-fuel); 0.20 ton/yr	0.0067 lb/in cut; 46 lb/MMscf (Oxy-fuel); 0.21 ton/yr	0.0067 lb/in cut; 46 lb/MMscf (Oxy-fuel); 0.21 ton/yr
12-04	Slag Plant Oxy Fuel-Fired Handheld and Track Torches	1.95 lb/MMscf: 0.08 ton/yr	7.65 lb/MMscf: 0.33 ton/yr	7.65 lb/MMscf: 0.33 ton/yr
17-01 A&B	Two (2) Light Plate Cutting Beds #1 - #2 (Plasma Cutters & Oxy-Fuel Torches)	0.00532 lb/in cut (plasma); 104 lb/MMscf (oxy-fuel); 2.16 ton/yr	0.00532 lb/in cut (plasma); 109 lb/MMscf (oxy-fuel); 2.17 ton/yr	0.00532 lb/in cut (plasma); 109 lb/MMscf (oxy-fuel); 2.17 ton/yr
17-02	Light Plate Tagger	0.003 lb/hr; 0.0045 ton/yr	0.003 lb/hr; 0.0045 ton/yr	0.003 lb/hr; 0.0045 ton/yr
18-02	Paint System Shot Blaster	0.003 gr/dscf; 0.31 lb/hr; 1.35 ton/yr	0.003 gr/dscf; 0.31 lb/hr; 1.35 ton/yr	0.003 gr/dscf; 0.31 lb/hr; 1.35 ton/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the particulate emission standards as follows:

A. Compliance with **2. Emission Limitations (b)(i)** is assumed when complying with the emission limitations in **2. Emission Limitations (b)(ii)**.

B. Compliance with **2. Emission Limitations (b)(ii)** will be demonstrated as follows:
   1) For 03-01, 03-02, 03-05, 04-03, and 05-01, the permittee shall meet the requirements in **1. Operating Limitations (a) – (c), (g)** and **(h)**, **4. Specific Monitoring Requirements (a), 5. Specific Recordkeeping Requirements (a)** and **(b), 6. Specific Reporting Requirements (a)** and **(b)**.
   2) For 03-03, 03-06, 03-07, 03-10, 03-11, 04-01, 04-04, 04-05, 04-06, 05-03, 12-04, 17-01 A&B, 17-02, and 18-02 the permittee shall meet the requirements in **1. Operating Limitations (f), 4. Specific Monitoring Requirements (a),** and **5. Specific Recordkeeping Requirements (a)**, and **7. Specific Control Equipment Operating Conditions.**
   3) For 03-04, the permittee shall meet the requirements in **1. Operating Limitations (f), 3. Testing Requirements (a), 4. Specific Monitoring Requirements (a),** and **5. Specific Recordkeeping Requirements (a)**, and **7. Specific Control Equipment Operating Conditions.**

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

c. ***CO, NO_x, SO_2, and GHG Emission Standard:*** Emissions of CO, NO_x, SO_2, and GHG shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for CO	BACT for NO_x	BACT for SO_2	BACT for GHG (CO_2e)
03-01	Walking Beam Reheat Furnace	84 lb/MMscf; 130.6 ton/yr	71.4 lb/MMscf; 111.05 ton/yr	0.6 lb/MMscf; 0.93 ton/yr	187,744 ton/yr
03-02	Ingot Bogie Hearth Furnaces #1 & #2	84 lb/MMscf; 29.58 ton/yr	122.14 lb/MMscf; 43.01 ton/yr	0.6 lb/MMscf; 0.21 ton/yr	42,482 ton/yr
03-03	Roughing Mill Stand with Descaler	N/A	N/A	N/A	150 ton/yr
03-04	Steckel Mill Finishing Stand	N/A	N/A	N/A	227 ton/yr
03-05	Steckel Mill Coiling Furnaces #1 & #2	84 lb/MMscf; 8.07 ton/yr	81.6 lb/MMscf; 7.84 ton/yr	0.6 lb/MMscf; 0.06 ton/yr	11,611 ton/yr
03-06	Coil Sample Plasma Cutter	N/A	0.57 lb/hr; 2.51 ton/yr	N/A	N/A
03-11	Ingot Grinding Oxy-Fuel Cutting Torch	84 lb/MMscf; 0.17 ton/yr	100 lb/MMscf; 0.20 ton/yr	0.6 lb/MMscf; 0.001 ton/yr	246 ton/yr
04-03	Tempering Furnace	154 lb/MMscf; 28.8 ton/yr	160 lb/MMscf; 29.9 ton/yr	0.6 lb/MMscf; 0.11 ton/yr	22,538 ton/yr
04-04	Continuous Heat Treat Plasma Torch Cutting	N/A	0.93 lb/hr; 4.09 ton/yr	N/A	N/A
05-01	Heavy Plate Car Bottom Furnaces #1 - #4	84 lb/MMscf; 66.36 ton/yr	81.6 lb/MMscf; 64.48 ton/yr	0.6 lb/MMscf; 0.48 ton/yr	95,378 ton/yr
05-03	Heavy Plate Cutting Beds #1 & #2	84 lb/MMscf (oxy-fuel); 0.052 ton/yr	1.4 lb/hr (plasma); 100 lb/MMscf (oxy-fuel); 6.19 ton/yr	0.6 lb/MMscf (oxy-fuel); 0.0004 ton/yr	74 ton/yr
12-04	Slag Plant Oxy Fuel-Fired Handheld and Track Torches	84 lb/MMscf (oxy-fuel); 3.64 ton/yr	100 lb/MMscf (oxy-fuel); 4.34 ton/yr	0.6 lb/MMscf (oxy-fuel); 0.026 ton/yr	5,234 ton/yr
17-01 A&B	Two (2) Light Plate Cutting Beds #1 - #2 (Plasma Cutters & Oxy-Fuel Torches)	84 lb/MMscf (oxy-fuel); 0.03 ton/yr	1.4 lb/hr (plasma); 100 lb/MMscf (oxy-fuel); 18.42 ton/yr	0.6 lb/MMscf (oxy-fuel); 0.00021 ton/yr	42 ton/yr

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

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for CO, NO_x, SO_2, and GHGs as follows:

A. For 03-01, 03-02, and 05-01 the permittee shall meet the requirements in **1. Operating Limitations (a) – (c), (g)** and **(h)**, **4. Specific Monitoring Requirements (a), 5. Specific Recordkeeping Requirements (a)** and **(b), 6. Specific Reporting Requirements (a)** and **(b)**.

B. For 03-05, and 04-03, the permittee shall meet the requirements in **1. Operating Limitations (a) – (c), (g)** and **(h)**, **4. Specific Monitoring Requirements (a), 5. Specific Recordkeeping Requirements (a)** and **(b), 6. Specific Reporting Requirements (a)** and **(b)**.

C. For 03-03, 03-04, 03-06, 03-11, 04-04, 05-03, 12-04, and 17-01 A&B, the permittee shall meet the requirements in **1. Operating Limitations (f), 4. Specific Monitoring Requirements (a),** and **5. Specific Recordkeeping Requirements (a)**, and **7. Specific Control Equipment Operating Conditions.**

d. ***VOC Emission Standard***: Emissions of VOC shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for VOC
03-01	Walking Beam Reheat Furnace	5.5 lb/MMscf; 8.55 ton/yr
03-02	Ingot Bogie Hearth Furnaces #1 & #2	5.5 lb/MMscf; 1.94 ton/yr
03-03	Roughing Mill Stand with Descaler	1.50 lb/hr; 3.94 ton/yr
03-04	Steckel Mill Finishing Stand	1.70 lb/hr; 5.83 ton/yr
03-05	Steckel Mill Coiling Furnaces #1 & #2	5.5 lb/MMscf; 0.53 ton/yr
03-07	Coil Tagger	0.19 lb/hr; 0.096 ton/yr
03-11	Ingot Grinding Oxy-Fuel Cutting Torch	5.5 lb/MMscf; 0.011 ton/yr
04-03	Tempering Furnace	5.5 lb/MMscf; 1.03 ton/yr
04-05	Continuous Heat Treat Entry Tagger	0.03 lb/hr; 0.04 ton/yr
04-06	Continuous Heat Treat Exit Tagger	0.43 lb/hr; 0.6 ton/yr
05-01	Heavy Plate Car Bottom Furnaces #1 - #4	5.5 lb/MMscf; 4.34 ton/yr
05-03	Heavy Plate Cutting Beds	5.5 lb/MMscf (oxy-fuel); 0.003 ton/yr
12-04	Slag Plant Oxy Fuel-Fired Handheld and Track Torches	5.5 lb/MMscf; 0.238 ton/yr
17-01 A&B	Two (2) Light Plate Cutting Beds #1 - #2 (Plasma Cutters & Oxy-Fuel Torches)	5.5 lb/MMscf (oxy-fuel); 0.002 ton/yr
17-02	Light Plate Tagger	0.87 lb/hr; 1.23 ton/yr

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

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for VOC as follows:

A. For 03-01, 03-02, 03-05, 04-03, and 05-01, the permittee shall meet the requirements in **1. Operating Limitations (a) – (c), (g)** and **(h)**, **4. Specific Monitoring Requirements (a), 5. Specific Recordkeeping Requirements (a)** and **(b), 6. Specific Reporting Requirements (a)** and **(b)**.

B. For 03-03, 03-06, 03-07, 03-11, 04-05, 04-06, 05-03, 12-04, 17-01 A&B and 17-02, the permittee shall meet the requirements in **1. Operating Limitations (d) – (f), 4. Specific Monitoring Requirements (a),** and **5. Specific Recordkeeping Requirements (a)**, and **7. Specific Control Equipment Operating Conditions.**

C. For 03-04, the permittee shall meet the requirements in **1. Operating Limitations (d) – (f), 3. Testing Requirements (a), 4. Specific Monitoring Requirements (a),** and **5. Specific Recordkeeping Requirements (a)**, and **7. Specific Control Equipment Operating Conditions.**

e. 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.

f. Refer to **SECTION D**.

3. Testing Requirements:

a. The permittee shall conduct performance tests on the Steckel Mill Finishing Stand (EP 03-04) scrubber stack within 60 days after achieving the maximum production rate at which the Steckel Mill Finishing Stand (EP 03-04) will be operated, but not later than 180 days after initial startup and annually thereafter for PM, PM_{10}, $PM_{2.5}$, and VOC. [401 KAR 51:017]

i. The permittee shall use U.S. EPA Methods 201A & 202 for PM, PM_{10}, and $PM_{2.5}$;
ii. The permittee shall use U.S. EPA Method 25 for VOC;
iii. The permittee may use an alternate method upon approval from the Division.
iv. These tests shall demonstrate compliance with **2. Emission Limitations**, establish captured and uncaptured emission factors for each pollutant in lb/ton, and establish scrubber operating parameter ranges (scrubber liquid flowrate and pressure drop) at which the scrubber will be operated to demonstrate compliance.

b. 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.

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

4. Specific Monitoring Requirements:

a. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation for each emission point;
   ii. Monthly and 12-month rolling process weight rate (tons) for each emission point;
   iii. For EP 03-01, 03-02, 03-05, 03-11, 04-03, 05-01, 05-03, 12-04, and 17-01A &B, the monthly and 12-month rolling natural gas combusted (MMscf) in each emission point;
   iv. For EP 03-03 and 03-04, the monthly and 12-month rolling oil and grease consumption;
   v. For EP 03-04, continuous pressure drop across the scrubber and the scrubber liquid flow rate.
   vi. For EP 03-06, 03-10, 04-01, 04-04, 05-03, 12-04, 17-01 A&B, and 18-02, daily pressure drop across the baghouses.

b. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than once every 7 calendar days 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 perform monthly operational status inspections of the affected facilities and control equipment. The observations shall include but not be limited to, the physical appearance of all equipment. [401 KAR 52:020, Section 10]

d. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation for each emission point;
   ii. Monthly and 12-month rolling process weight rate (tons) for each emission point;
   iii. For EP 03-01, 03-02, 03-05, 03-11, 04-03, 05-01, 05-03, 12-04, and 17-01 A&B, the monthly and 12-month rolling natural gas combusted (MMscf) in each emission point;
   iv. For EP 03-03 and 03-04, the monthly and 12-month rolling oil and grease consumption;
   v. For EP 03-03 and 03-04, the MSDS for the oil & grease used;
   vi. For EP 04-05 and 04-06, the MSDS for the ink/paint used;
   vii. The monthly and 12-month rolling emissions of PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHGs for each emission point;
   viii. 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.
   ix. The GCOP plan required by **1. Operating Limitations (g)** as well as any revisions;
   x. The GWP plan required by **1. Operating Limitations (f)** as well as any revisions;
   xi. For EP 03-04, continuous pressure drop across the scrubber and the scrubber liquid flow rate;
   xii. For EP 03-06, 03-10, 04-01, 04-04, 05-03, 12-04, 17-01 A&B, and 18-02, daily pressure drop across the baghouses;

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

xiii. Maintenance performed on the control equipment.

b. The permittee shall maintain records of any time that an emission point listed above was not operated according to the GCOP plan or GWP Plan required by **1. Operating Limitations (f)** and **(g)** with a description of the situation and actions taken to remedy the issue. [401 KAR 51:017]

c. The permittee shall maintain records documenting all deficiencies noted during the monthly operational status inspections and the resulting maintenance that was performed. [401 KAR 52:020, Section 10]

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall include, in the semi-annual report, any time that that an emission point listed above was not operated according to the GCOP plan or GWP Plan in **1. Operating Limitations (f)** and **(g)** with a description of the situation and actions taken to remedy the issue. Refer to **5. Specific Recordkeeping Requirements (b)**. [401 KAR 51:017]

b. The permittee shall submit, within 180 days of startup, certification that the design elements proposed as BACT for the emission points listed above have been implemented in the final construction. [401 KAR 51:017]

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

7. Specific Control Equipment Operating Conditions:

a. For the Steckel Mill Finishing Stand (EP 03-04): The permittee shall install, operate, and maintain a high efficiency venturi scrubber designed to control particulate grain loading to 0.005 gr/dscf at an exhaust flow rate of 40,106 scfm. This scrubber shall be operated within the ranges established by **2. Testing Requirements (b).** [401 KAR 51:017]

b. For the Coil Sample Plasma Cutter (EP 03-06): The permittee shall install, operate, and maintain a baghouse designed to control 99% of particulate emissions. [401 KAR 51:017]

c. For the Ingot Grinding (EP 03-10): The permittee shall install, operate, and maintain a baghouse designed to control particulate grain loading to 0.005 gr/dscf at an exhaust flow rate of 48,327 scfm. [401 KAR 51:017]

d. For the Shot Blaster (EP 04-01): The permittee shall install, operate, and maintain a baghouse designed to control particulate grain loading to 0.003 gr/dscf at an exhaust flow rate of 33,000 scfm. [401 KAR 51:017]

e. For the Continuous Heat Treat Plasma Torches (EP 04-04): The permittee shall install, operate, and maintain a dust collector designed to control 99% of particulate emissions. [401 KAR 51:017]

f. For the Heavy Plate Cutting Beds (EP 05-03), and the Light Plate Cutting Beds (EP 17-01 A&B): the permittee shall install, operate, and maintain baghouses for each cutting bed or

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

a single baghouse that controls emissions from all cutting beds, combined, designed to control 99% of particulate emissions. [401 KAR 51:017]

g. For the Slag Plant Oxy Fuel-Fired Handheld and Track Torches (EP 12-04): the permittee shall install, operate, and maintain a baghouse design to control 99.9% of particulate emissions. [401 KAR 51:017]

h. For the Paint System Shot Blaster (EP 18-02): The permittee shall install, operate, and maintain a baghouse designed to control particulate grain loading to 0.003 gr/dscf at an exhaust flow rate of 12,000 scfm. [401 KAR 51:017]

i. The permittee shall maintain records of the manufacturer's specifications for each control device identified in the table above, identifying the grain loading, control efficiency, and flow rate for which each control device was designed. The fabric filters shall be designed to achieve the BACT limits in **2. Emission Limitations.** [401 KAR 51:017]

j. The permittee shall operate and maintain emission capture equipment, dust collectors, baghouses and the scrubber in accordance with manufacturer's specifications and shall correct any deficiencies noted during monthly operational status inspections. [401 KAR 52:020, Section 10]

k. Refer to **SECTION E.**

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

Group 3

Emission Unit 06 (EU 06): Lime, Carbon, Alloy Handling Systems,
Emission Unit 08 (EU 08) – Scrap Handling System, &
Emission Unit 12 (EU 12) – Slag Processing

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Control Device	Construction Commenced
Emission Unit 06 (EU 06): Lime, Carbon, Alloy Handling Systems					
06-01	EAF Flux and Carbon Handling System (dump station & material transfer)	120 tons/hr	111,000 tons/yr*	Baghouse (C0601)	2022
06-02 A, B & C	Lime Silos A, B & C	120 tons/hr, each	75,000 tons/yr, each*	Passive Bin Vent Filter (C0602A, B & C)	2022
06-03	LMF Flux and Carbon Handling System (dump station & material transfer)	120 tons/hr	35,000 tons/yr*	Baghouse (C0605)	2022
06-04	EAF Carbon Silo	120 tons/hr	30,625 tons/yr*	Passive Bin Vent Filter (C0604)	2022
06-05	LMF Alloy Handling System (dump station & material transfer)	120 tons/hr	62,000 tons/yr*	Baghouse (C0605)	2022
Emission Unit 08 (EU 08) – Scrap Handling System					
08-01	Barge Scrap Unloading	600 tons/hr	962,500 tons/yr*	----	2020
08-02	Rail Scrap Unloading	200 tons/hr	577,500 tons/yr*	----	2020
08-03	Scrap Pile Loading & Unloading (incl. truck unloading)	1000 tons/hr	1,925,000 tons/yr*	----	2020
Emission Unit 12 (EU 12) – Slag Processing					
12-01	Slag Processing Equipment	400 tons/hr	262,500 tons/yr*	Dust Suppression/ Wetting	2022
12-03	Slag Plant Pot Slagger	13.5 tons/hr	118,260 tons/yr	Dust Suppression/ Wetting	2022

*Note: Long-term capacities of these units are bottlenecked by the upstream operational limit on the melt shop.

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

APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of significant deterioration of air quality*
401 KAR 59:010, *New process operations*
401 KAR 63:010, *Fugitive emissions*

1. **Operating Limitations:**
   a. For each affected facility that is not subject to the opacity standards in **2. Emission Limitations (a)**, and that emits or may emit any air contaminant into the air outside buildings, structures, and equipment other than from a stack or air pollution control equipment exhaust:
      i. 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. Such reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
         1) 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)]
         2) 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)]
         3) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
         4) The maintenance of paved roadways in a clean condition; [401 KAR 63:010, Section 3(1)(e)]
         5) 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)]

   Compliance Demonstration Method:
   Refer to **4. Specific Monitoring Requirements (b)** and **(c)**, **5. Specific Recordkeeping Requirements (b)** and **(d).**

2. **Emission Limitations:**
   a. Opacity Standard: 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)(a)]

   Compliance Demonstration Method:
   Refer to **4. Specific Monitoring Requirements (a)** and **5. Specific Recordkeeping Requirements (a).**

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

b. ***Particulate Emission Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which exceed the following limits:
   i. 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), Appendix A]
      1) For process weight rates of 0.50 ton/hr or less: 2.34 lb/hr
      2) For process weight rates > 0.5 ton/hr up to 30.00 tons/hr: $E = 3.59 * P^{0.62}$
      3) For process weight rates > 30.00 tons/hr: $E = 17.3 * P^{0.16}$
      Where:
      E = the allowable PM emissions rate (pounds/hr)
      P = the process weight rate (tons/hr)
   ii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following tables: [401 KAR 51:017]

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
06-01	EAF Flux and Carbon Handling System (dump station & material transfer)	0.28 lb/hr; 0.13 ton/yr	0.13 lb/hr; 0.06 ton/yr	0.02 lb/hr; 0.01 ton/yr
06-02 A, B & C	Lime Silos A, B & C (total)	0.005 gr/dscf; 0.12 lb/hr; 0.52 ton/yr	0.005 gr/dscf; 0.12 lb/hr; 0.52 ton/yr	0.005 gr/dscf; 0.12 lb/hr; 0.52 ton/yr
06-03	LMF Flux and Carbon Handling System (dump station & material transfer)	0.28 lb/hr; 0.033 ton/yr	0.13 lb/hr; 0.015 ton/yr	0.02 lb/hr; 0.002 ton/yr
06-04	EAF Carbon Silo	0.005 gr/dscf; 0.04 lb/hr; 0.17 ton/yr	0.005 gr/dscf; 0.04 lb/hr; 0.17 ton/yr	0.005 gr/dscf; 0.04 lb/hr; 0.17 ton/yr
06-05	LMF Alloy Handling System (dump station & material transfer)	0.28 lb/hr; 0.07 ton/yr	0.13 lb/hr; 0.034 ton/yr	0.02 lb/hr; 0.005 ton/yr
08-01	Barge Scrap Unloading	0.0003 lb/ton; 0.14 ton/yr	0.00015 lb/ton; 0.07 ton/yr	0.00004 lb/ton; 0.02 ton/yr
08-02	Rail Scrap Unloading	0.0003 lb/ton; 0.09 ton/yr	0.00015 lb/ton; 0.04 ton/yr	0.00004 lb/ton; 0.01 ton/yr
08-03	Scrap Pile Loading	0.0009 lb/ton; 0.86 ton/yr	0.0004 lb/ton; 0.40 ton/yr	0.0001 lb/ton; 0.06 ton/yr
12-01	Slag Processing Equipment	2.06 lb/hr; 1.77 ton/yr	0.76 lb/hr; 0.77 ton/yr	0.16 lb/hr; 0.26 tpy
12-03	Slag Plant Pot Slagger	0.01 lb/hr; 0.041 ton/yr	0.003 lb/hr; 0.014 ton/yr	0.001 lb/hr 0.004 ton/yr

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

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the particulate emission standards listed above as follows:

A. Compliance with **2. Emission Limitations (b)(i)** is assumed when complying with **2. Emission Limitations (b)(ii)**.
B. For EP 06-01 through 06-05, 12-01, and 12-03, compliance with **2. Emission Limitations (b)(ii)** will be demonstrated by meeting the requirements in **1. Operating Conditions (a)**, **4. Specific Monitoring Requirements (b)** and **(c), 5. Specific Recordkeeping Requirements (b)** through **(d),** and **7. Specific Control Equipment Operating Conditions.**
C. For EP 08-01 through 08-03, compliance with **2. Emission Limitations (b)(ii)** will be demonstrated by meeting the requirements in **1. Operating Conditions (a)** and by comparing the allowable rate to the actual rate using the following equation:

$$E_{PMi} = \frac{P_i \times EF_{PM}}{h_i}$$

Where:
i = the month,
E_{PMi} = the actual average hourly particulate emissions rate for month i (pounds/hour)
P_i = the actual specific operating parameter for month i (units/month),
EF_{PM} = the overall uncontrolled KYEIS particulate emission factor (pounds/unit),
h_i = the actual total hours of operation for month i (hours/month).

c. ***Fugitive Emission Standard***:
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
ii. More than twenty (20) minutes of emission time during any twenty-four (24) hour period.

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the fugitive emission standards listed above as follows:

A. Refer to **1. Operating Limitations (a).**
B. The permittee shall monitor the reasonable precautions taken to prevent particulate matter from becoming airborne on a daily basis.
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.

d. Refer to **SECTION D**.

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

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 perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than once every 7 calendar days 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]

b. The permittee shall perform monthly operational status inspections of the affected facilities, dust suppression equipment and control equipment. The observations shall include but not be limited to, the physical appearance of all equipment. [401 KAR 52:020, Section 10]

c. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. Daily and 12-month rolling process weight rate for each emission point in tons;
   ii. Hours of operation.

d. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain a log of the dates and times of each qualitative visible emission observation and U.S. EPA Reference Method 9 observation performed as required by **4. Specific Monitoring Requirements (a)**, whether any emissions were observed (yes/no), initials of observer, as well as any corrective action taken due to observed emissions. [401 KAR 52:020, Section 10]

b. The permittee shall maintain records documenting all deficiencies noted during the monthly operational status inspections and the resulting maintenance that was performed. [401 KAR 52:020, Section 10]

c. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. Daily and 12-month rolling process weight rate for each emission point in tons;
   ii. Hours of operation;
   iii. Monthly and 12-month rolling emissions of PM, PM_{10}, and $PM_{2.5}$;
   iv. Maintenance performed on the control equipment.

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

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

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

7. Specific Control Equipment Operating Conditions:

a. For the EAF Flux and Carbon Handling System (dump station & material transfer) (EP 06-01): The permittee shall install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions. [401 KAR 51:017]

b. For Lime Silos A & B & C (EP 06-02A, B & C): The permittee shall install, operate, and maintain a bin vent filter on each silo designed to control particulate grain loading to 0.005 grain/dscf and the flow rate to 920 dscf/min. [401 KAR 51:017]

c. For the LMF Flux and Carbon Handling System (dump station & material transfer) (EP 06-03): The permittee shall install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions. [401 KAR 51:017]

d. For EAF Carbon Silo (EP 06-04): The permittee shall install, operate, and maintain a dust collector designed to control particulate grain loading to 0.005 grain/dscf and the flow rate to 920 dscf/min. [401 KAR 51:017]

e. For the LMF Alloy Handling System (dump station & material transfer) (EP 06-05): The permittee shall install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions. [401 KAR 51:017]

f. Slag Processing (EP 12-01) shall only be performed on wetted material. [401 KAR 51:017]

g. The control devices associated with the emission units listed above shall be properly maintained, kept in good operating condition, used in conjunction with operation of the underlying emission units and operated consistent with the manufacturer's specifications. [401 KAR 51:017]

h. The permittee shall maintain records of the manufacturer's specifications for each control device identified in the table above, identifying the grain loading, control efficiency, and flow rate for which each control device was designed. The fabric filters shall be designed to achieve the BACT limits in **2. Emission Limitations.** [401 KAR 51:017]

i. Refer to **SECTION E**.

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

Group 4

Emission Unit 09 (EU 09) – Cooling Towers

Emission Point #	Unit Name	Maximum Capacity	Drift Loss	Number of Cells	Control Device	Construction Commenced
Emission Unit 09 (EU 09): Cooling Towers						
09-01	Melt Shop ICW Cooling Tower System 100	49,200 gal/min*	0.001%*	3	Mist Eliminator	2022
09-02	Melt Shop DCW Cooling Tower System 200	16,000 gal/min*	0.001%*	2	Mist Eliminator	2022
09-04	Rolling Mill DCW Cooling Tower System 400	55,000 gal/min*	0.001%*	3	Mist Eliminator	2022
09-05	Rolling Mill ACC ICW Cooling Tower System 500	35,000 gal/min*	0.001%*	2	Mist Eliminator	2022
09-06	Heavy Plate Quench DCW Cooling Tower System 600	10,100 gal/min*	0.001%*	4	Mist Eliminator	2022
09-07	Quench & ACC Laminar DCW Cooling Tower System 700	44,000 gal/min*	0.001%*	3	Mist Eliminator	2022
09-08	Heat Treat Cooling Tower System 800	30,900 gal/min*	0.001%*	8	Mist Eliminator	2022
09-09	Air Separation Plant Cooling Tower, System 900	12,800 gal/min*	0.001%*	4	Mist Eliminator	2022

*Note: These units have an operational limit in **1. Operating Limitations**, below.

APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of significant deterioration of air quality*

401 KAR 59:010, *New process operations*

PRECLUDED REGULATIONS:

401 KAR 63:002, Section 2(4)(j), 40 C.F.R. 63.400 through 63.407, Table 1 (Subpart Q), *National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers*

1. **Operating Limitations:**
   a. The use of chromium based water treatment chemicals in the cooling towers (EU09) is prohibited. [To preclude 40 CFR 63, Subpart Q]

      Compliance Demonstration Method:
      Refer to **5. Specific Recordkeeping Requirements (f)** and **6. Specific Reporting Requirements**.

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

b. For EP 09-01: Water flow rate to Melt Shop ICW Cooling Tower shall not exceed 49,200 gallons per minute. Total dissolved solids concentration shall not exceed 2,800 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

c. For EP 09-02: Water flow rate to Melt Shop DCW Cooling Tower shall not exceed 16,000 gallons per minute. Total dissolved solids concentration shall not exceed 3,000 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

d. For EP 09-04: Water flow rate to Rolling Mill DCW Cooling Tower shall not exceed 55,000 gallons per minute. Total dissolved solids concentration shall not exceed 3,000 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

e. For EP 09-05: Water flow rate to Rolling Mill ACC ICW Cooling Tower shall not exceed 35,000 gallons per minute. Total dissolved solids concentration shall not exceed 2,800 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

f. For EP 09-06: Water flow rate to Heavy Plate Quench DCW Cooling Tower shall not exceed 10,100 gallons per minute. Total dissolved solids concentration shall not exceed 3,000 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

g. For EP 09-07, Water flow rate to Quench & ACC Laminar DCW Cooling Tower shall not exceed 44,000 gallons per minute. Total dissolved solids concentration shall not exceed 3,000 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

h. For EP 09-08, Water flow rate to Heat Treat Cooling Tower shall not exceed 30,900 gallons per minute. Total dissolved solids concentration shall not exceed 3,000ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

i. For EP 09-09, Water flow rate to Air Separation Plant Cooling Tower shall not exceed 12,800 gallons per minute. Total dissolved solids concentration shall not exceed 2,800 ppm. The mist eliminator drift loss shall be maintained at 0.001% or less to total gpm. [401 KAR 51:017]

Compliance Demonstration Method:

The total flow for each cooling tower system (EP 09-01 through 09-09) will be calculated using the sum of the flow of each pump returning and/or supplying water to each of the specific systems. The flow for individual pumps will be calculated by monitoring the common header pressure each pump is connected to, compensating the header pressure for any losses and/or gains in pressure due to significant pipe fittings, elevation changes, and suction head pressures, that will affect the performance of each pump, and correlating the resulting total dynamic head pressure for each specific pump to the manufacture design flow rate. The resulting flow determined for each pump on a specific cooling tower system will be summed together to determine the total return flow for that system back to each of

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

the cooling tower systems (EP 09-01 through 09-09). The permittee shall use the following equations:

$Q_{System} = \sum Q_{Pumps}$ = Total flow for a specific cooling tower system (EP 09-01 through 09-09). This is the sum of all pumps connected to a distinct cooling tower system.

Q_{pumps} = Manufacturers design flow rate at total dynamic head (TDH_P) condition for each pump. This is based on the manufacturers' pump curves required to be kept by **5. Specific Recordkeeping Requirements (d).**

Where:

$$TDH_P = P_S * (2.31\ ft_{H2O}/psi) \pm P_{SUC} \pm P_{DIS}$$

And:

P_S = Pressure of the specific system header for the pump (psig)
P_{SUC} = Suction head (+) or suction lift (-)for the pump (ft_{H2O})
P_{DIS} = Discharge head (± based on elevation changes and fittings) (ft_{H2O})

Refer to **4. Specific Monitoring Requirements (a), (b),** and **(c)**, and **5. Specific Recordkeeping Requirements (a)** and **(b)**. Alternatively, the permittee may install, operate, and maintain flow meters to monitor the total return flow from the system back to each of the cooling tower systems.

j. The permittee shall perform regular cooling tower maintenance as recommended by the vendor to assure that the drift loss is maintained at or below the levels specified above at all times. [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (c).**

2. Emission Limitations:

a. ***Opacity Standard:*** 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)(a)]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (d)** and **5. Specific Recordkeeping Requirements (e).**

b. ***Particulate Emission Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which exceed the following limits:

i. 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), Appendix A]

1) For process weight rates of 0.50 ton/hr or less: 2.34 lb/hr
2) For process weight rates > 0.5 ton/hr up to 30.00 tons/hr: $E = 3.59 * P^{0.62}$

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

3) For process weight rates > 30.00 tons/hr: $E = 17.3 * P^{0.16}$

Where:

E = the allowable PM emissions rate (pounds/hr)

P = the process weight rate (tons/hr)

ii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following tables: [401 KAR 51:017]

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
09-01	Melt Shop ICW Cooling Tower	0.69 lb/hr 3.02 ton/yr	0.51 lb/hr 2.25 ton/yr	0.002 lb/hr 0.007 ton/yr
09-02	Melt Shop DCW Cooling Tower System 200	0.24 lb/hr 1.05 ton/yr	0.17 lb/hr 0.76 ton/yr	0.0005 lb/hr 0.002 ton/yr
09-04	Rolling Mill DCW Cooling Tower System 400	0.83 lb/hr; 3.62 ton/yr	0.57 lb/hr; 2.49 ton/yr	0.002 lb/hr; 0.0078 ton/yr
09-05	Rolling Mill ACC ICW Cooling Tower System 500	0.49 lb/hr; 2.15 ton/yr	0.34 lb/hr; 1.48 ton/yr	0.001 lb/hr; 0.005 ton/yr
09-06	Heavy Plate Quench DCW Cooling Tower System 600	0.15 lb/hr; 0.66 ton/yr	0.11 lb/hr; 0.48 ton/yr	0.0003 lb/hr; 0.001 ton/yr
09-07	Quench & ACC Laminar DCW Cooling Tower System 700	0.66 lb/hr; 2.89 ton/yr	0.48 lb/hr; 2.10 ton/yr	0.001 lb/hr; 0.006 ton/yr
09-08	Heat Treat Cooling Tower System 800	0.46 lb/hr; 2.03 ton/yr	0.34 lb/hr; 1.48 ton/yr	0.001 lb/hr; 0.004 ton/yr
09-09	Air Separation Plant Cooling Tower, System 900	0.18 lb/hr; 0.79 ton/yr	0.13 lb/hr; 0.59 ton/yr	0.0004 lb/hr; 0.002 ton/yr

Compliance Demonstration Method:

The permittee shall demonstrate compliance with the particulate emission standards listed above as follows:

A. Compliance **2. Emission Limitations (b)(i)** is assumed when complying with **2. Emission Limitations (b)(ii)**.

B. Compliance with **2. Emission Limitations (b)(ii)** will be demonstrated by meeting the requirements in **1. Operating Conditions (b) – (i), 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements,** and **7. Specific Control Equipment Operating Conditions.**

c. Refer to **SECTION D**.

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 total dissolved solids concentration or conductivity in the cooling towers' water weekly. [401 KAR 52:020, Section 10]

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

b. The permittee shall monitor the gallon per minute throughputs of EPs 09-01 through 09-09 on a daily basis using the method in **1. Operating Limitations (b) – (i) Compliance Demonstration Method**. [401 KAR 52:020, Section 10]

c. The permittee shall monitor the common header pressure each pump is connected to or the total return flow rate for the system. [401 KAR 52:020, Section 10]

d. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than once every 7 calendar days 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]

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the most current cooling towers' TDS or conductivity. [401 KAR 52:020, Section 10]

b. The permittee shall maintain records of the daily average gallon per minute throughputs for EPs 09-01 through 09-09 calculated using the equation in **1. Operating Limitations (b) - (i) Compliance Demonstration Method**. [401 KAR 52:020, Section 10]

c. The permittee shall maintain records of maintenance performed on the cooling towers and mist eliminators. [401 KAR 52:020, Section 10]

d. The permittee shall maintain records of the manufacturer provided pump curves used for the calculations in **1. Operating Limitations (b) - (i) Compliance Demonstration Method**. [401 KAR 52:020, Section 10]

e. The permittee shall maintain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (d),** 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]

f. The permittee shall maintain records of water treatment chemical purchases, including invoices and other documentation that includes invoices and other documentation that includes date(s) of purchase or shipment, trade name or other information to identify composition of the product, and quantity of the product. [To preclude 40 CFR 63, Subpart Q]

g. The permittee shall maintain records of the monthly and 12-month rolling emissions of PM, PM_{10}, and $PM_{2.5}$. [401 KAR 52:020, Section 10]

h. Refer to **SECTION F** for general recordkeeping requirements.

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

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 high-efficiency mist eliminators capable of controlling emissions to the requirements in **1. Operating Limitations (b)** through **(i)**. The permittee shall verify this by maintaining manufacturer's certifications or performing testing. [401 KAR 51:017]

b. Refer to **SECTION E**.

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

Group 5

Emission Unit 10 (EU10) – Emergency Generators > 500 HP

Emission Point #	Unit Name	Maximum Rated Capacity	Fuel Used	Control Device	Construction Commenced
Emission Unit 10 (EU 10): Emergency Generators > 500 HP					
10-01	G100-1 Emergency Generator	1,474 HP	Diesel	None	2022
10-02	G100-2 Emergency Generator	2,937 HP	Diesel	None	2022
10-03	G100-3 Emergency Generator	2,937 HP	Diesel	None	2022
10-04	G200-1 Emergency Generator	1,474 HP	Diesel	None	2022
10-08	G300-1 Emergency Generator	1,474 HP	Diesel	None	2022
10-09	G400-1 Emergency Generator	1,474 HP	Diesel	None	2022

Description: All of these generators have a displacement of less than 30 liters/cylinder.

APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of significant deterioration of air quality*

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

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 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 shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for such engines under 40 CFR Part 63. [40 CFR 63.6590(c)(1)]

   b. The permittee shall operate and maintain the stationary CI ICE such that the emission standards required in 40 CFR 60.4205 are achieved 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 shall install a non-resettable hour meter on each unit prior to the start-up of the engine. [40 CFR 60.4209(a)]
   e. The permittee shall do all of the following, except as permitted under 40 CFR 60.4211(g): [40 CFR 60.4211(a)]
      i. The permittee shall operate and maintain the emergency stationary RICE according to the manufacturer's emission-related written instructions. [40 CFR 60.4211(a)(1)]

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

ii. The permittee shall change only those emission-related settings that are permitted by the manufacturer. [40 CFR 60.4211(a)(2)]
iii. The permittee shall meet the requirements of 40 CFR part 1068, as they apply. [40 CFR 60.4211(a)(3)]

f. 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 IIII, 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 (3), the engine will not be considered an emergency engine under 40 CFR 60, Subpart IIII and must meet all requirements for non-emergency engines. [40 CFR 60.4211(f)]
   i. There is no time limit on the use of emergency stationary RICE in emergency situations. [40 CFR 60.4211(f)(1)]
   ii. The permittee may operate the emergency stationary RICE listed above 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 40 CFR 60.4211(f)(3) counts as part of the 100 hours per calendar year allowed by this paragraph. [40 CFR 60.4211(f)(2)]
      1) Emergency stationary RICE 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 Division 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 RICE beyond 100 hours per calendar year. [40 CFR 60.4211(f)(2)(i)]
   iii. Emergency stationary RICE 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 year for nonemergency 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 nonemergency situations can be used to supply power as part of a financial arrangement with another entity if all the conditions in 40 CFR 60.4211(f)(3)(i) are met. [40 CFR 60.4211(f)(3)(i)]

g. 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 change emission-related settings in a way that is not permitted by the manufacturer, the permittee shall demonstrate compliance as specified in 40 CFR 60.4211 (g)(3) for EPs 10-01 through 10-09. [40 CFR 60.4211(g)]

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

Compliance Demonstration Method:
To ensure compliance with the requirements above, the permittee shall keep records of the hours of operation and purpose of operation. There is no time limit on the use of stationary emergency RICE in emergency situations. Refer to **5. Specific Recordkeeping Requirements**.

h. The permittee shall prepare and maintain for EPs 10-01, 10-02, 10-03, 10-04, 10-08, 10-09, upon initial compliance demonstration but no later than 180 days after startup, a good combustion and operation practices (GCOP) plan that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHG emissions. Any revisions to the GCOP plan requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Division's inspection. The plan shall include, but not be limited to: [401 KAR 51:017]
   i. A list of combustion optimization practices and a means of verifying the practices have occurred.
   ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred.
   iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.

Compliance Demonstration Method:
To ensure compliance with requirements above, the permittee shall keep maintenance records and maintain records of the manufacturer's emission-related written instructions. Refer to **5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. For EPs 10-01, 10-02, 10-03, 10-04, 10-08, and 10-09, 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 (with a displacement of less than 30 liters per cylinder). [40 CFR 60.4205(b)]

Compliance Demonstration Method:
The permittee shall comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine shall be installed and configured according to the manufacturer's specifications, except as permitted in 40 CFR 60.4211(g). [40 CFR 60.4211(c)]

b. Emissions shall not exceed, on an individual basis, the values listed in the table below. [401 KAR 51:017]

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

Emission Point	PM (g/hp-hr)	PM_{10} (g/hp-hr)	$PM_{2.5}$ (g/hp-hr)	CO (g/hp-hr)	NMHC+NO_x (g/hp-hr)
EP 10-01	0.15	0.15	0.15	2.61	4.77
EP 10-02	0.15	0.15	0.15	2.61	4.77
EP 10-03	0.15	0.15	0.15	2.61	4.77
EP 10-04	0.15	0.15	0.15	2.61	4.77
EP 10-08	0.15	0.15	0.15	2.61	4.77
EP 10-09	0.15	0.15	0.15	2.61	4.77

Compliance Demonstration Method:
The permittee shall install, operate, and maintain each engine such that it meets or is certified to meet the emission limits in **2. Emission Limitations (b)**. The permittee shall maintain engine certifications onsite and available for inspection by the Division.

c. Refer to **SECTION D**.

3. Testing Requirements:

a. If the permittee conducts performance tests pursuant to 40 CFR 60, Subpart IIII, they shall do so according to 40 CFR 60.4212(a) through (e) for CI engines with a displacement of less than 30 liters per cylinder. [40 CFR 60.4212]

b. 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. For each emission point, monthly hours of operation recorded through the non-resettable hour meter and the purpose of operation for each emission point shall be monitored. [401 KAR 52:020, Section 10]

b. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall keep records of the operation of the engine in emergency and non-emergency services 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)]

b. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly and annual fuel usage for each engine;
   ii. The manufacturer's certified emissions certificate, manufacturer's written operating instructions, and any procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine;
   iii. The GCOP plan required by **1. Operating Limitations (h)**, as well as any revisions.

c. The permittee shall maintain records of maintenance conducted on the engine consistent with the operating requirements of 40 CFR 60.4206 and 40 CFR 60.4211(a). [401 KAR 52:020, Section 10]

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

d. The permittee shall maintain records of fuel purchases to show that the fuel meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [401 KAR 52:020, Section 10]

e. The permittee shall maintain records of any time that an emission point listed above was not operated according to the GCOP plan required by **1. Operating Limitations (h)** with a description of the situation and actions taken to remedy the issue. [401 KAR 51:017]

f. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. For any emergency stationary CI ICE that operates for the purpose 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 UNITS, EMISSION POINTS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Group 6

Emission Unit 11 (EU 11) – Emergency Generators < 500 HP

Emission Point #	Unit Name	Maximum Rated Capacity	Fuel Used	Control Device	Construction Commenced
Emission Unit 11 (EU 11): Emergency Generators < 500 HP					
11-06	Air Separation Plant Emergency Generator	460 HP	Natural Gas	None	2022
11-07	Admin Building Emergency Generator	103 HP	Natural Gas	None	2022

Description: These generators are 4-stroke, rich-burn engines that have a displacement of less than 30 liters per cylinder.

APPLICABLE REGULATIONS:

401 KAR 51:017, *Prevention of significant deterioration of air quality*

401 KAR 60:005, Section 2(2)(eeee), 40 C.F.R. 60.4230 through 60.4248, Tables 1 through 4 (Subpart JJJJ), *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*

401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 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 shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ. No further requirements apply for such engines under 40 CFR Part 63. [40 CFR 63.6590(c)(1)]

b. The permittee shall operate and maintain the stationary SI ICE that achieve the emission standards as required in 40 CFR 60.4233 over the entire life of the engine [40 CFR 60.4234].

c. For EPs 11-06, and 11-07, the permittee shall install a non-resettable hour meter upon startup of the emergency engine. [40 CFR 60.4237(c)]

d. The permittee shall operate the emergency stationary ICE according to the requirements in 40 CFR 60.4243(d)(1) through (3). In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, Subpart JJJJ, 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 60.4243(d)(1) through (3), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 60.4243(d)(1) through (3), the engine will not be considered an emergency engine under 40 CFR 60, Subpart JJJJ and must meet all requirements for non-emergency engines. [40 CFR 60.4243(d)]

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

i. There is no time limit on the use of emergency stationary ICE in emergency situations. [40 CFR 60.4243(d)(1)]
ii. The permittee may operate the emergency stationary ICE for the purpose specified in 40 CFR 60.4243(d)(2)(i) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by 40 CFR 60.4243(d)(3) counts as part of the 100 hours per calendar year allowed by 40 CFR 60.4243(d)(2). [40 CFR 60.4243(d)(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 60.4243(d)(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 60.4243(d)(2). Except as provided in 40 CFR 60.4243(d)(3)(i), the 50 hours per 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 60.4243(d)(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 conditions in 40 CFR 60.4243(d)(3)(i) are met. [40 CFR 60.4243(d)(3)(i)]

Compliance Demonstration Method:
To ensure compliance with the requirements above, the permittee shall keep records of the hours of operation and purpose of operation. There is no time limit on the use of stationary emergency RICE in emergency situations. See **5. Specific Recordkeeping Requirements**.

e. The permittee shall prepare and maintain for EPs 11-06 and 11-07, upon initial compliance demonstration but no later than 180 days after startup, a good combustion and operation practices (GCOP) plan that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHG emissions. Any revisions to the GCOP plan requested by the Division shall be made and the plan shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction. The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Division's inspection. The plan shall include, but not be limited to: [401 KAR 51:017]
    i. A list of combustion optimization practices and a means of verifying the practices have occurred.
    ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred.

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

iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.

Compliance Demonstration Method:
To ensure compliance with requirements above, the permittee shall keep maintenance records and maintain records of the manufacturer's emission-related written instructions. Refer to **5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee shall comply with the emission standards in Table 1 to 40 CFR Part 60, Subpart JJJJ, for the emergency stationary SI ICE. [40 CFR 60.4233(d); 401 KAR 51:017]

Emission Point	Maximum Engine Power	Emission Standards g/HP-hr (ppmvd at 15% O_2)		
		NO_x	**CO**	**VOC**
11-06	HP≥130	2.0 (160)	4.0 (540)	1.0 (86)
		NOx + HC	**CO**	**VOC**
11-07	25<HP<130	10 (N/A)	387 (N/A)	N/A

Compliance Demonstration Method:
The permittee shall demonstrate compliance according to one of the methods specified in 40 CFR 63.4243(b)(1) and (2). [40 CFR 60.4243(b)]

A. Purchasing an engine certified according to procedures specified in 40 CFR 60, Subpart JJJJ, for the same model year and demonstrating compliance according to one of the methods specified in 40 CFR 60.4243(a). [40 CFR 60.4243(b)(1)]

B. If the permittee operates and maintains the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, the permittee must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. The permittee must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply. If the permittee adjusts engine settings according to and consistent with the manufacturer's instructions, the stationary SI internal combustion engine will not be considered out of compliance. [40 CFR 60.4243(a)(1)]

b. For each engine, the permittee shall operate and maintain stationary SI ICE that achieve the emission standards as required in 40 CFR 60.4233 over the entire life of the engine. [40 CFR 60.4234]

c. Refer to **SECTION D**.

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.

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

4. Specific Monitoring Requirements:

a. For each emission point, the monthly hours of operation recorded through the non-resettable hour meter and the purpose of operation for each emission point shall be monitored. [401 KAR 52:020, Section 10]

b. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall keep records of the information in 40 CFR 63.4245(a)(1) through (4). [40 CFR 60.4245(a)]
   i. All notifications submitted to comply with 40 CFR 60, Subpart JJJJ and all documentation supporting any notification. [40 CFR 60.4245(a)(1)]
   ii. Maintenance conducted on the engine. [40 CFR 60.4245(a)(2)]
   iii. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable. [40 CFR 60.4245(a)(3)]
   iv. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that the engine meets the emission standards. [40 CFR 60.4245(a)(4)]

b. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly and annual fuel usage for each engine;
   ii. The hours of operation for each engine, including the purpose of operation;
   iii. The GCOP plan required by **1. Operating Limitations (d)**, as well as any revisions.

c. The permittee shall maintain records of any time that an emission point listed above was not operated according to the GCOP plan required by **1. Operating Limitations (d)** with a description of the situation and actions taken to remedy the issue. [401 KAR 51:017]

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. For any emergency stationary SI ICE that operates for the purpose specified in 40 CFR 60.4243(d)(3)(i), the permittee must submit an annual report according to the requirements in 40 CFR 60.4245(e)(1) through (3). [40 CFR 60.4245(e)]

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

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

Group 7

Emission Unit 04 (EU 04) – Continuous Heat Treat Line &
Emission Unit 13 (EU 13) – Air Separation Plant

Emission Point #	Unit Name	Burner Maximum Capacity (MMBtu/hr)	Fuel Used	Control Device	Construction Commenced
Emission Unit 04 (EU 04): Continuous Heat Treat Line					
04-02	Austenitizing Furnaces	74.23 MMBtu/hr	Natural Gas	None	2022
Emission Unit 13 (EU 13): Air Separation Plant					
13-01	Water Bath Vaporizer	Two at 14.5 MMBtu/hr, each	Natural Gas	None	2020

Description: These emission points are indirect heat exchangers.

APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of significant deterioration of air quality*
401 KAR 59:015, *New indirect heat exchangers*
401 KAR 60:005, Section 2(2)(d), 40 C.F.R. 60.40c through 60.48c (Subpart Dc), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,* applies to EP 13-01

STATE-ORIGIN REQUIREMENTS:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*, applies to 04-02.

1. Operating Limitations:

a. The permittee shall use only natural gas as fuel in EPs 04-02 and 13-01. [401 KAR 51:017]

b. EP 04-02 shall be equipped with low NO_x burners (burners designed to maintain 0.16 lb/MMBtu in flameless mode and 0.25 lb/MMBtu in flame mode and the standards in **2. Emission Limitations (b)**). [401 KAR 51:017]

c. EP 13-01 shall be equipped with low NO_x burners (burners designed to maintain 0.05 lb/MMBtu and the standards in **2. Emission Limitations (b)**). [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements (a)** and **(b).**

d. The permittee shall prepare and maintain for EPs 04-02 and 13-01, upon initial compliance demonstration but no later than 180 days after startup, a good combustion and operation practices (GCOP) plan that defines, measures and verifies the use of operational and design practices determined as BACT for minimizing PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHG emissions. Any revisions to the GCOP plan requested by the Division shall be made and the revisions shall be maintained on site. The permittee shall operate according to the provisions of this plan at all times, including periods of startup, shutdown, and malfunction.

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

The plan shall be incorporated into the plant standard operating procedures (SOP) and shall be made available for the Division's inspection. The plan shall include, but not be limited to: [401 KAR 51:017]

i. A list of combustion optimization practices and a means of verifying the practices have occurred.
ii. A list of combustion and operation practices to be used to lower energy consumption and a means of verifying the practices have occurred.
iii. A list of the design choices determined to be BACT and verification that designs were implemented in the final construction.

Compliance Demonstration Method:
Compliance shall be demonstrated according to **5. Specific Recordkeeping Requirements (b)** and **(c)**, and **6. Specific Reporting Requirements (b)**.

e. The permittee shall meet the following design and operational requirements for EPs 04-02 and 13-01 as the BACT determination for GHG: [401 KAR 51:017]
   i. Use only pipeline quality natural gas.
   ii. Install, operate, and maintain a combustion system that includes air-to-fuel ratio control for improved fuel efficiency, adequate temperature for complete combustion, and sufficient gas residence time to complete combustion.
   iii. Conduct periodic calibration of gas supply system in accordance with manufacturer's recommended procedures and schedule.
   iv. Maintain gas supply valves in accordance with the manufacturer's recommended procedures and schedule.

   Compliance Demonstration Method:
   Compliance shall be demonstrated as follows:
   A. The facility construction shall be completed in accordance with the BACT determination for GHGs and incorporating the design elements listed above. Refer to **6. Specific Reporting Requirements (c)**, below.
   B. The permittee shall prepare, maintain, and implement the GCOP plan. Refer to **1. Operating Limitations (e)**.

f. During a startup period or shutdown period, the permittee shall comply with the work practice standards established in 401 KAR 59:015, Section 7. [401 KAR 59:015, Section 7]
   i. The permittee shall comply with 401 KAR 50:055, Section 2(5); [401 KAR 59:015, Section 7(1)(a)]
   ii. The frequency and duration of startup periods or shutdown periods shall be minimized by the affected facility; [401 KAR 59:015, Section 7(1)(b)]
   iii. All reasonable steps shall be taken by the permittee to minimize the impact of emissions on ambient air quality from the affected facility during startup periods and shutdown periods; [401 KAR 59:015, Section 7(1)(c)]
   iv. The actions, including duration of the startup period, of the permittee during startup and shutdown periods, shall be documented in signed, contemporaneous logs or other relevant evidence; [401 KAR 59:015, Section 7(1)(d)]

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

v. Startups and shutdowns shall be conducted according to either: [401 KAR 59:015, Section 7(1)(e)]
   1) The manufacturer's recommended procedures; or [401 KAR 59:015, Section 7(1)(e)1.]
   2) Recommended procedures for a unit of similar design, for which manufacturer's recommended procedures are available, as approved by the cabinet based on documentation provided by the permittee. [401 KAR 59:015, Section 7(1)(e)2.]

Compliance Demonstration Method:
Compliance shall be demonstrated according to **5. Specific Recordkeeping Requirements (d).**

2. Emission Limitations:

a. ***Particulate Emission Standard:***

i. The permittee shall not cause emissions of particulate matter in excess of 0.32 lb/MMBtu actual heat input from each emission point listed above. [401 KAR 59:015, Section 4(1)(c)]

ii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
04-02	Austenitizing Furnace	1.9 lb/MMscf; 0.61 ton/yr	7.6 lb/MMscf; 2.42 ton/yr	7.6 lb/MMscf; 2.42 ton/yr
13-01	Water Bath Vaporizer	1.9 lb/MMscf; 0.24 ton/yr	7.6 lb/MMscf; 0.95 ton/yr	7.6 lb/MMscf; 0.95 ton/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the particulate emission standards as follows:

A. Compliance with **2. Emission Limitations (a)(i)** is assumed when complying with **2. Emission Limitations (a)(ii)** and when burning natural gas.

B. Compliance with **2. Emission Limitations (a)(ii)** will be demonstrated by meeting the requirements in **1. Operating Limitations**, **4. Specific Monitoring Requirements (b), 5. Specific Recordkeeping Requirements,** and **6. Specific Reporting Requirements (b)** and **(c)**.

b. ***Opacity Standard:*** The permittee shall not cause emissions of particulate matter in excess of twenty (20) percent opacity based on a six-minute average. [401 KAR 59:015, Section 4(2)]

Compliance Demonstration Method:
Compliance with the opacity standard is assumed when burning natural gas.

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

c. ***CO, NO_x, SO_2, and GHG Emission Standard:***
   i. The permittee shall not cause emissions of gases that contain sulfur dioxide in excess of 1.2 lb/MMBtu actual heat input from each emission point listed above. [401 KAR 59:015, Section 5(1)(c)]
   ii. Emissions of CO, NO_x, SO_2, and GHG shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for CO	BACT for NO_x	BACT for SO_2	BACT for GHG (CO_2e)
04-02	Austenitizing Furnace	88.6 lb/MMscf; 28.24 ton/yr	160 lb/MMscf; 51.0 ton/yr	0.6 lb/MMscf; 0.19 ton/yr	38,478 ton/yr
13-01	Water Bath Vaporizer	84 lb/MMscf; 10.46 ton/yr	50 lb/MMscf; 6.23 ton/yr	0.6 lb/MMscf; 0.07 ton/yr	15,032 ton/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for CO, NO_x, SO_2, and GHGs as follows:
A. Compliance with **2. Emission Limitations (d)(i)** is assumed when complying with **2. Emission Limitations (d)(ii)** and when burning natural gas.
B. Compliance with **2. Emission Limitations (d)(ii)** will be demonstrated by meeting the requirements in **1. Operating Limitations**, **4. Specific Monitoring Requirements (b), 5. Specific Recordkeeping Requirements,** and **6. Specific Reporting Requirements (b)** and **(c)**.

d. ***VOC Emission Standard:*** Emissions of VOC shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for VOC
04-02	Austenitizing Furnace	5.5 lb/MMscf; 1.75 ton/yr
13-01	Water Bath Vaporizer	5.5 lb/MMscf; 0.68 ton/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the emission limitations for VOC by meeting the requirements in **1. Operating Limitations**, **4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements,** and **6. Specific Reporting Requirements (b)** and **(c)**.

e. 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]

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

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.

f. Refer to **SECTION D.**

3. Testing Requirements:
Performance testing using the reference methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet. [401 KAR 50:045, Section 1, and 401 KAR 59:005, Section 2(2)]

4. Specific Monitoring Requirements:
a. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation for each emission point;
   ii. Monthly and 12-month rolling natural gas combusted (MMscf) in each emission point. If the permittee elects not to install a fuel metering device to continuously monitor the amount of natural gas fed to each emission point, the permittee may use a combined meter for multiple emission points, as long as the natural gas apportioned to all emission points sums to 100% of the natural gas used.

b. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:
a. The permittee shall maintain records of the amount of natural gas (MMscf) combusted in each unit, on a monthly and 12-month rolling basis. [40 CFR 60.48c(g) and 401 KAR 52:020, Section 10]

b. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation for each emission point;
   ii. The monthly and 12-month rolling emissions of PM, PM_{10}, $PM_{2.5}$, NO_x, CO, SO_2, VOC, and GHGs for each emission point;
   iii. The GCOP plan required by **1. Operating Limitations (d)** as well as any revisions.

c. The permittee shall maintain records of any time that an emission point listed above was not operated according to the GCOP plan required by **1. Operating Limitations (d)** with a description of the situation and actions taken to remedy the issue. [401 KAR 51:017]

d. The permittee shall keep records of the manufacturer's recommended procedures for startup and shutdown, any instance in which the recommended procedures were not followed, and any corrective action taken. [401 KAR 52:020, Section 10]

e. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:
a. For EP 13-01, the permittee shall submit notification of the date of construction and actual startup, as provided by 40 CFR 60.7. The notification shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected

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

facility. [40 CFR 60.48c(a)(1)]

b. The permittee shall include, in the semi-annual report, any time that the emission units listed above were not operated according to the GCOP plan required by **1. Operating Limitations (d)** with a description of the situation and actions taken to remedy the issue. Refer to **5. Specific Recordkeeping Requirements (c)**. [401 KAR 51:017]

c. The permittee shall submit, within 180 days of startup, certification that the design elements proposed as BACT for the emission points listed above have been implemented in the final construction. [401 KAR 51:017]

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

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

Group 8

Emission Unit 01 (EU 01) – Melt Shop,
Emission Unit 14 (EU 14) – Roads &
Emission Unit 12 (EU 12) – Slag Processing

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Controls	Construction Commenced
Emission Unit 14 (EU 14): Roads					
14-01	Paved Roadways	814 VMT/day	297,205 VMT/yr	Sweeping/ Wetting	2020
14-02	Unpaved Roadways	264 VMT/day	96,462 VMT/yr	Wetting	2020
Emission Unit 12 (EU 12) – Slag Processing					
12-02	Slag Processing Piles	400 tons/hr	328,125 tons/yr*	Dust Suppression	2020
Emission Unit 01 (EU 01) – Melt Shop					
01-08A	Tundish Preparation – Dump Station	2.7 tons refractory/hr	23,652 tons refractory/yr	None	2022

Description: Various paved and unpaved roads and fugitive operations within the PSD-prescribed source boundary.
Unpaved Roads for transporting material between the melt shop and slag processing.

APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of significant deterioration of air quality*
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. Such reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
      i. Use, if possible, of water or suitable chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land; [401 KAR 63:010, Section 3(1)(a)]
      ii. 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)]
      iii. 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

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

emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations. [401 KAR 63:010, Section 3(1)(c)]

iv. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]

v. The maintenance of paved roadways in a clean condition; or [401 KAR 63:010, Section 3(1)(e)]

vi. The prompt removal of earth or other material from a paved street to which earth or other material has been transported 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)]

d. The permittee 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).**

e. The slag processing storage piles' total weight shall not exceed 328,125 tons at any time. [401 KAR 51:017]

Compliance Demonstration Method:
The permittee shall demonstrate compliance with **1. Operating Limitations (e)**, monthly, by determining the total weight of the slag processing storage piles using the following equation:

$$Weight_{stockpiles} = Volume_{total} \times \rho_{water} \times SG_{slag}$$

Where:

$Weight_{stockpiles}$ = total weight of slag processing storage piles
$Volume_{total}$ = total volume of slag processing storage piles
ρ_{water} = density of water (1,000 $\frac{kg}{m^3}$, 62.4 $\frac{lb}{ft^3}$, or equivalent)
SG_{slag} = specific gravity of slag (from SDS)

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

f. For Emission Point 01-08A, the permittee shall prepare and implement, upon initial compliance demonstration but no later than 180 days after startup, a Good Work Practices (GWP) plan that includes written operating instructions and procedures that specify good operating and maintenance practices and includes, at a minimum, the following specific practices targeting PM, PM_{10}, and $PM_{2.5}$, emission minimization, and a means of verifying the practices have occurred: [401 KAR 51:017]

i. Tracking material usage to ensure that equipment is operated as designed and correcting any operating or design issues as quickly as possible;

ii. Employing a preventative maintenance program, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Compliance Demonstration Method:
Refer to **5. Specific Recordkeeping Requirements (e)** and **6. Specific Reporting Requirements (a)**.

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

ii. More than twenty (20) minutes of emission time during any twenty-four (24) hour period.

Compliance Demonstration Method:
Refer to **4**. **Specific Monitoring Requirements (b)** and **5. Specific Recordkeeping Requirements (b).**

b. Refer to **SECTION D**.

3. Testing Requirements:
Performance testing shall be conducted if required by the Cabinet. [401 KAR 50:045, Section 1]

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 U.S. EPA 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]

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

c. 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, down-time, or relevant weather conditions are acceptable for entry to the log. [401 KAR 52:020, Section 10]

b. The permittee shall maintain a log of the following: [401 KAR 52:0X0, Section 10]
   i. Any U.S. EPA Reference Method 22 performed and field records identified in U.S. EPA Reference Method 22.
   ii. Any corrective action taken and the results.

c. The permittee shall keep records of the dates that they swept, and/or applied water/dust suppressants to roadways and slag storage piles according to **7. Specific Control Equipment Operating Conditions**. [401 KAR 52:020, Section 10]

d. The permittee shall maintain records of the slag processing storage piles' total weight on a monthly basis. [401 KAR 52:020, Section 10]

e. The permittee shall maintain records of the GWP plan required by **1. Operating Limitations** as well as any revisions. [401 KAR 52:020, Section 10]

f. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall include, in the semi-annual report, any time that EP 01-08A was not operated according to the GWP Plan in **1. Operating Limitations** with a description of the situation and actions taken to remedy the issue. Refer to **5. Specific Recordkeeping Requirements (e)**. [401 KAR 51:017]

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

7. Specific Control Equipment Operating Conditions:

The permittee shall employ a combination of the following to control fugitive dust emissions: surface improvements (pavement), sweeping (good work practice) and watering for paved roads, watering and the use of dust suppressants on unpaved roads and slag piles. Refer to **SECTION E**. [401 KAR 51:017]

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

Group 11

Emission Unit 18 (EU 18) – Blast and Prime Line

Emission Point #	Unit Name	Maximum Short-Term Capacity	Maximum Long-Term Capacity	Burner Maximum Capacity (MMBtu/hr)	Control Device	Construction Commenced
Emission Unit 18 (EU 18) – Blast and Prime Line						
18-03	Plate Painting Operation (Incl. paint prep room)	50.7 gal/hr	444,132 gal/yr	---	Booth Filter; Regenerative thermal oxidizer (RTO)	2022
18-05	Paint System Dryer	----	----	0.34 MMBtu/hr	Regenerative thermal oxidizer (RTO)	2022

Description: Airless spraying of coating occurs in EP 18-03 and the coating is dried in EP 18-05. These two EPs share an RTO for coating emissions. EP 18-05 natural gas emissions are exhausted through a separate stack shared with EP 18-01. The paint prep room is exhausted to the painting cabinet and controlled by the RTO.

APPLICABLE REGULATIONS:
401 KAR 51:017, *Prevention of significant deterioration of air quality*
401 KAR 59:010, *New process operations*
401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*
40 CFR 64, *Compliance Assurance Monitoring*

STATE-ORIGIN REQUIREMENTS:
401 KAR 63:020, *Potentially hazardous matter or toxic substances*

1. **Operating Limitations:**
   a. The paint prep room, plate painting operation, and paint system dryer shall be routed to the RTO. [401 KAR 51:017]

   b. The permittee shall, within 90 days of startup, develop and implement a good work practice (GWP) plan to minimize VOC emissions from the storage, mixing, and conveying of coatings, and cleaning materials used in, and waste materials generated by, all coating operations. The plan shall specify practices and procedures to ensure that, at a minimum, the following elements are implemented: [401 KAR 51:017]
      i. All VOC-containing coatings, cleaning materials, and waste materials shall be stored in closed containers.
      ii. The risk of spills of VOC-containing coatings, cleaning materials, and waste materials shall be minimized.
      iii. VOC-containing coatings, cleaning materials, and waste materials shall be conveyed from one location to another in closed containers or pipes.

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

iv. Mixing vessels which contain VOC-containing coatings and other materials shall be closed except when adding to, removing, or mixing the contents.
v. Emissions of VOC shall be minimized during cleaning of storage, mixing, and conveying equipment.

Compliance Demonstration Method:
Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements, 6. Specific Reporting Requirements**, and **7. Specific Control Equipment Operating Conditions.**

c. The RTO the average combustion temperature in any 3-hour period shall not fall below the combustion temperature limit established during the performance test in **3. Testing Requirements**. [401 KAR 51:017]

Compliance Demonstration Method:
The permittee shall demonstrate continuous compliance with **1. Operating Limitations (d)** by:
A. Collecting temperature data according to **7. Specific Control Equipment Operating Conditions (b)**;
B. Reducing the data to 3-hour block averages; and
C. Maintaining the 3-hour average combustion temperature at or above the temperature limit.
D. The average combustion temperature of RTO in any three (3) hour period must not fall below the combustion temperature limit established during the most recent performance test. If the 3-hour average combustion temperature falls below the operating temperature limit established for the thermal oxidizer, then the permittee shall assume destruction efficiency of zero, during the time period of the deviation for the purpose of demonstrating compliance with emission limitations.

d. The permittee shall ensure that paint booth capture system achieves 100% capture efficiency. The permittee shall demonstrate this by demonstrating that the capture system meets the requirements of section 6 of EPA Method 204 of appendix M to 40 CFR part 51 for a PTE and that all exhaust gases from the enclosure are delivered to a control device. [401 KAR 51:017]
i. The permittee shall ensure all coatings used in the coating operation are applied within the capture system, and coating solvent flash-off and drying occurs within the capture system.
ii. The direction of the air flow at all times shall be into the enclosure; and either
1) The average facial velocity of air through all natural draft openings in the enclosure shall be at least 200 feet per minute; or
2) The pressure drop across the enclosure shall be at least 0.007 inches of water, as established in Method 204 of appendix M to 40 CFR part 51.
iii. Alternatives to these standards may be requested with justification in writing to the Division.

e. The permittee shall maintain the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit

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

established using Method 204, and maintain the direction of air flow into the enclosure at all times. [401 KAR 51:017]

Compliance Demonstration Method:
Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements, 6. Specific Reporting Requirements**, and **7. Specific Control Equipment Operating Conditions.**

2. Emission Limitations:

a. ***Opacity Standard:*** 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)(a)]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements (b)** and **5. Specific Recordkeeping Requirements (a).**

b. ***Particulate Emission Standard:*** The permittee shall not discharge or cause to be discharged into the atmosphere any gases which exceed the following limits:

i. 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), Appendix A]

1) For process weight rates of 0.50 ton/hr or less: 2.34 lb/hr
2) For process weight rates > 0.5 ton/hr up to 30.00 tons/hr: $E = 3.59 * P^{0.62}$
3) For process weight rates > 30.00 tons/hr: $E = 17.3 * P^{0.16}$

Where:
E = the allowable PM emissions rate (pounds/hr)
P = the process weight rate (tons/hr)

ii. Emissions of PM, PM_{10}, and $PM_{2.5}$ shall not exceed the limits in the following table: [401 KAR 51:017]

Emission Point	Description	BACT for PM (filterable)	BACT for PM_{10}	BACT for $PM_{2.5}$
18-03	Plate Painting Operation	0.51 lb/hr; 2.24 tons/yr	0.53 lb/hr; 2.30 tons/yr	0.53 lb/hr; 2.30 tons/yr

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the particulate emission standards as follows:

A. Compliance with **2. Emission Limitations (b)(i)** is assumed when complying with **2. Emission Limitations (b)(ii)**.
B. Compliance with the lb/hr limits in **2. Emission Limitations (b)(ii)** will be demonstrated according to the requirements in **3. Testing Requirements.**
C. Compliance with the ton/yr limits in **2. Emission Limitations (b)(ii)** will be demonstrated by performing the following calculation monthly:

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

$$E_{xi} = \left[\left(\frac{P_i \times 20\% \times EF_x}{2000}\right) \times (1 - B_x)\right]$$

$$T_x = \sum_{i=1}^{12} E_{xi}$$

Where:

i = Month;

x = Pollutant (PM, PM_{10}, or $PM_{2.5}$)

E_{xi} = The actual average monthly emission rate of pollutant *x* during month *i* in tons of *x* per month;

P_i = The actual throughput during month *i* in gallons of coating used per month;

EF_x = The corresponding solids content of the coating used, as determined according to **3. Testing Requirements (b)** or the emission factor determined by the most recent representative performance test, in pounds per gallon of paint used;

B_x = Control efficiency (%) of the paint system filter for pollutant *x*;

T_x = Total 12-month rolling emissions of pollutant x in tons per year;

20% = 1 – Transfer efficiency (80%) of the airless spraying

D. Refer to **1. Operating Limitations**, **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements, 6. Specific Reporting Requirements,** and **7. Specific Control Equipment Operating Conditions.**

c. ***VOC Emission Standard:***

i. The permittee shall not cause, allow, or permit a coating line to discharge into the atmosphere more than 15% by weight of the VOCs net input into each coating line (including mixing operations; process storage; applicators; drying operations; cleanup operations; leaks, spills and disposal of VOCs; processing and handling of recovered VOCs). [401 KAR 59:225, Section 3]

ii. The permittee shall not cause, allow, or permit a coating line to discharge into the atmosphere more than 2% by weight of the VOCs net input into each coating line (including mixing operations; process storage; applicators; drying operations; cleanup operations; leaks, spills and disposal of VOCs; processing and handling of recovered VOCs). [401 KAR 51:017]

iii. Emissions of VOC from the RTO stack shall not exceed 5.52 lb/hr, based on a 3-hour average, and 24.20 tons/yr, on a 12-month rolling basis. [401 KAR 51:017]

Compliance Demonstration Method:

The permittee shall demonstrate compliance with the VOC emission standards as follows:

A. Compliance with **2. Emission Limitations (c)(i)** is assumed when complying with **2. Emission Limitations (c)(ii)**.

B. Compliance with **2. Emission Limitations (c)(ii)** will be demonstrated according to **3. Testing Requirements.**

C. Compliance with the lb/hr limit in **2. Emission Limitations (c)(iii)** will be demonstrated according to the requirements in **3. Testing Requirements.**

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

D. Compliance with the ton/yr limit in **2. Emission Limitations (c)(iii)** will be demonstrated by performing the following calculation monthly:

$$E_{VOCi} = \left(\frac{P_i \times EF_{VOC}}{2000}\right) \times (1 - DE)$$

$$T_{VOC} = \sum_{i=1}^{12} E_{VOCi}$$

Where:

i = Month;

E_{VOCi} = The actual average monthly emission rate of VOC during month *i* in tons per month;

P_i = The actual specific throughput of the plate painting operations during month *i* in gallons of coating used per month;

EF_{VOC} = The corresponding VOC content of the coating used as determined according to **3. Testing Requirements (a)** or the emission factor determined by the most recent representative performance test, in pounds per gallon of paint used;

DE = The destruction or removal efficiency (DRE) of the RTO as determined according to **3. Testing Requirements** percent**.**

T_{VOC} = Total 12-month rolling emissions of VOC in tons per year.

Note: Any additional solvent use in the plate painting operations during the month shall be added to the VOC calculation for the month and included in the total.

E. Refer to **1. Operating Limitations**, **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements, 6. Specific Reporting Requirements,** and **7. Specific Control Equipment Operating Conditions.**

d. 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:

a. For coatings, the permittee shall determine the total volatile matter content as weight fraction of nonaqueous volatile matter using Method 24 in appendix A-7 of part 60. As an alternative to using Method 24, the permittee may use ASTM D2369-10 (2015), "Test Method for Volatile Content of Coatings" (incorporated by reference, see 40 CFR 63.14). The determination of total volatile matter content may be performed by the manufacturer of the coating and the results provided to the permittee. [401 KAR 51:017]

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

b. The permittee must determine the solids content and the density of each coating material applied. The permittee may determine the volume solids content using ASTM D2697-03(2014) Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings (incorporated by reference, see 40 CFR 63.14) or ASTM D6093-97 (2016) Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer (incorporated by reference, see 40 CFR 63.14), or an EPA approved alternative method. The permittee must determine the density of each coating using ASTM D1475-13 "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see 40 CFR 63.14) or ASTM D2111-10 (2015) "Standard Test Methods for Specific Gravity and Density of Halogenated Organic Solvents and Their Admixtures" (incorporated by reference, see 40 CFR 63.14). The solids determination using ASTM D2697-03(2014) or ASTM D6093-97 (2016) and the density determination using ASTM D1475-13 or ASTM 2111-10 (2015) may be performed by the manufacturer of the material and the results provided to the permittee. Alternatively, the permittee may rely on formulation data provided by material providers to determine the volume solids. In the event of any inconsistency between test data obtained with the ASTM test methods specified in this section and formulation data, the test data will govern. [401 KAR 51:017]

c. The permittee shall conduct performance tests to establish the destruction or removal efficiency of the control device and the VOC emissions according to the methods and procedures below. This testing shall be conducted within 60 days after achieving the maximum production rate at which the emission points listed above will be operated, but not later than 180 days after initial startup, and every 5 years thereafter. During performance tests, the permittee must establish the operating limits required by **1. Operating Limitations** according to the methods below. [401 KAR 51:017]
   i. Performance tests conducted to determine the destruction or removal efficiency of the control device must be performed such that control device inlet and outlet testing is conducted simultaneously. The data must be reduced in accordance with the test methods and procedures below.
      1) Method 1 or 1A of 40 CFR part 60, appendix A, is used for sample and velocity traverses to determine sampling locations.
      2) Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, is used to determine gas volumetric flow rate.
      3) Method 3, 3A, or 3B of 40 CFR part 60, appendix A, used for gas analysis to determine dry molecular weight. The permittee may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference in 40 CFR 63.14).
      4) Method 4 of 40 CFR part 60, appendix A, is used to determine stack gas moisture.
      5) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run.
      6) Method 25 or 25A in appendix A-7 of 40 CFR part 60 is used to determine total gaseous non-methane organic matter concentration. The permittee may use Method 18 in appendix A-6 of 40 CFR part 60 to subtract methane emissions from measured total gaseous organic mass emissions as carbon. Use the same test method for both

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

the inlet and outlet measurements, which must be conducted simultaneously. The permittee must use Method 25A if any of the conditions described below apply to the control device.

A. An exhaust gas volatile organic matter concentration of 50 ppmv or less is required to comply with the emission limitations; or
B. The volatile organic matter concentration at the inlet to the control system and the required level of control are such that they result in exhaust gas volatile organic matter concentrations of 50 ppmv or less; or
C. Because of the high efficiency of the control device, the anticipated volatile organic matter concentration at the control device exhaust is 50 ppmv or less, regardless of inlet concentration.

7) Each performance test must consist of three separate runs, except as provided by 40 CFR 63.7(e)(3); each run must be conducted for at least 1 hour under the conditions that exist when the affected source is operating under normal operating conditions. For the purpose of determining volatile organic matter concentrations and mass flow rates, the average of the results of all runs will apply.
8) If the permittee is determining the control device destruction or removal efficiency, for each run, determine the volatile organic matter mass flow rates using the following equation:

$$M_f = Q_{sd} C_C (12)(0.0416)(10^{-6})$$

Where:

M_f = total organic volatile matter mass flow rate, kg/per hour (h).
C_c = concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, ppmv, dry basis.
Q_{sd} = volumetric flow rate of gases entering or exiting the control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters (dscm)/h.
0.0416 = conversion factor for molar volume, kg-moles per cubic meter (mol/m^3) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

9) For each run, determine the control device destruction or removal efficiency, DRE, using the following equation:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100$$

Where:

DRE = organic emissions destruction or removal efficiency of the add-on control device, percent.
M_{fi} = organic volatile matter mass flow rate at the inlet to the control device, kg/h.
M_{fo} = organic volatile matter mass flow rate at the outlet of the control device, kg/h.

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

10) The control device destruction or removal efficiency is determined as the average of the efficiencies determined in the three test runs and calculated in the equation above.

ii. The permittee must record such process information as may be necessary to determine the conditions in existence at the time of the performance test. The permittee must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of start-up, shutdown, or nonoperation do not constitute representative conditions for the purpose of a performance test. The permittee may not conduct performance tests during periods of malfunction. The permittee must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation. Upon request, the permittee must make available to the Division such records as may be necessary to determine the conditions of performance tests.

iii. *Operating limits.* The permittee must establish the applicable operating limits required by **1. Operating Limitations**. These operating limits apply to each capture system and to each add-on emission control device that is not monitored by CEMS, and the permittee must establish the operating limits during performance tests.

1) *Thermal oxidizer.* For the thermal oxidizer, establish the operating limits according to the following:

A. During performance tests, the permittee must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. The permittee must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

B. Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for the thermal oxidizer.

C. If the permittee wishes to monitor an alternative parameter and comply with a different operating limit, the permittee must apply to the Division for approval of alternative monitoring.

c. The permittee must determine capture efficiency using the procedures below, as applicable: [401 KAR 51:017]

i. For an enclosure that meets the criteria for a PTE, the permittee may assume it achieves 100 percent capture efficiency. The permittee must confirm that the capture system is a PTE by demonstrating that it meets the requirements of section 6 of EPA Method 204 of 40 CFR part 51, appendix M (or an EPA approved alternative method), and that all exhaust gases from the enclosure are delivered to a control device.

ii. The permittee may determine capture efficiency, CE, according to the protocols for testing with temporary total enclosures that are specified in Method 204A through F of 40 CFR part 51, appendix M.

iii. As an alternative to the procedures specified above, if the permittee is required to conduct a capture efficiency test, the permittee may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective or the

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

Lower Confidence Limit approach as described in appendix A to 40 CFR 63, Subpart KK.

d. The permittee shall perform initial performance testing within 60 days after achieving the maximum production rate at which the emission point will be operated, but not later than 180 days after initial startup and every 5 years thereafter for PM, PM_{10}, and $PM_{2.5}$. [401 KAR 51:017]
   i. The permittee shall use U.S. EPA Methods 201A & 202 for PM, PM_{10}, and $PM_{2.5}$;
   ii. The permittee may use an alternate method upon approval from the Division.
   iii. These tests shall demonstrate compliance with **2. Emission Limitations**, establish inlet and outlet emission factors for each pollutant in lb/gal.
   iv. The permittee shall maintain the pressure drop across the paint system filter per manufacturer's recommended operating range.

f. 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 install, calibrate, operate, and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with **2. Emission Limitations**. This device shall have an accuracy of ±2.5 °C. or ±0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. [401 KAR 52:020, Section 10]

b. To demonstrate continuing compliance with the standards, the permittee must monitor and inspect each capture system and each control device following the date on which the initial performance test of the capture system and control device is completed. The permittee must install and operate the monitoring equipment as specified below. The permittee must also maintain the monitoring equipment at all times and keep the necessary parts readily available for routine repairs of the monitoring equipment. [401 KAR 52:020, Section 10]

c. *Temperature monitoring of oxidizers.* The permittee shall: [401 KAR 52:020, Section 10]
   i. Install, calibrate, maintain, and operate temperature monitoring equipment according to manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months; or the chart recorder, data logger, or temperature indicator must be replaced. The permittee must replace the equipment either if the permittee chooses not to perform the calibration, or if the equipment cannot be calibrated properly. Each temperature monitoring device must be equipped with a continuous recorder. The device must have an accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±1 °Celsius, whichever is greater.
   ii. Install the thermocouple or temperature sensor in the combustion chamber at a location in the combustion zone of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

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

d. *Capture system monitoring.* The permittee must develop a capture system monitoring plan containing the information specified below. The permittee must monitor the capture system in accordance with this plan. The permittee must make the monitoring plan available for inspection by the Division upon request. [401 KAR 52:020, Section 10]
   i. The monitoring plan must identify the operating parameter to be monitored to ensure that the capture efficiency measured during compliance tests is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures.
   ii. The plan also must specify operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the standards. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system.
   iii. The permittee must conduct monitoring in accordance with the plan.

e. The permittee shall perform a qualitative visual observation of the opacity of emissions from the RTO stack (EP 18-03) no less frequently than once daily 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]

f. The permittee shall monitor the following parameters for EP 18-03: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation;
   ii. Monthly and 12-month rolling total throughput;
   iii. Monthly and 12-month rolling coating usage in gallons;
   iv. Monthly and 12-month rolling solvent usage in gallons;
   v. Monthly and 12-month rolling total emissions of PM, PM_{10}, $PM_{2.5}$, and VOC in tons;
   vi. Monthly natural gas usage in MMscf;
   vii. Weekly visual inspection of paint system filter and key control equipment;
   viii. Pressure drop across the paint system filter at least once per shift.

g. The permittee shall perform monthly operational status inspections of the affected facilities and control equipment. The observations shall include but not be limited to, the physical appearance of all equipment. [401 KAR 52:020, Section 10]

h. Refer to **SECTION F** for general monitoring requirements.

i. Refer to **Appendix A** for CAM requirements pursuant to 40 CFR 64.

5. <u>Specific Recordkeeping Requirements</u>:

a. Daily records shall be maintained by the source for the most recent two (2) year period. These records shall be made available to the Cabinet or the U.S. EPA upon request. The records shall include, but not be limited to, the following: [401 KAR 59:225, Section 4(8)]
   i. Applicable administrative regulation number; [401 KAR 59:225, Section 4(8)(a)]
   ii. Application method and substrate type; [401 KAR 59:225, Section 4(8)(b)]

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

iii. Amount and type of adhesive, coating (including catalyst and reducer for multicomponent coatings), or solvent used at each point of application, including exempt compounds; [401 KAR 59:225, Section 4(8)(c)]
iv. The VOC content as applied in each adhesive, coating, or solvent; [401 KAR 59:225, Section 4(8)(d)]
v. The date for each application for adhesive, coating, or solvent; [401 KAR 59:225, Section 4(8)(e)]

b. The net input of VOC and HAP during any specified time period shall be considered to equal the total amount of VOC and HAP purchased and used during that specific time period. If any waste solvent is reclaimed and shipped off-site for disposal or recycling, AND the permittee can verify the VOC content of the reclaimed material through EPA test methods or a Division approved alternative, then the VOC content of the reclaimed material shipped off-site may be subtracted from the VOC purchased and used during the month when calculating emissions. [401 KAR 52:020, Section 10]

c. The permittee shall calculate and record the weight percentage of VOCs emitted. Compliance for one (1) coating line with VOC emission limits shall be based on an averaging period not to exceed twenty-four (24) hours. [401 KAR 59:225, Section 4(5)]

d. The permittee shall maintain a log of daily records required to show continuous compliance with the emission limits including continuous permanent records of the RTO combustion temperature. Refer to **4. Specific Monitoring Requirements (a).** [401 KAR 52:020, Section 10]

e. The permittee shall maintain records of the following information for the regenerative thermal oxidizer (RTO): [401 KAR 52:020, Section 10]
i. The design and/or manufacturer's parameter specifications,
ii. The operational procedures and preventive maintenance records,
iii. The calibration records for the combustion temperature sensor, validation checks and the subsequent accuracy audits,
iv. A log of visual inspections of each temperature sensor if redundant temperature sensors are not used,
v. A record of the average combustion temperature limit established during the most recent performance test and all relevant supporting data,
vi. The continuously recorded combustion temperature of the thermal oxidizer along with the 3-hour averages,
vii. Record all periods (during coating operations), in which the 3-hour average combustion temperature of the thermal oxidizer is below the temperature limit established during the most recent performance test. Each occurrence shall be considered a deviation from permit requirements. Refer to **6. Specific Reporting Requirements**, and
viii. During all periods of operation of the thermal oxidizer in which the 3-hour average combustion temperature is below the combustion temperature limit established by the most recent performance test, a daily log of the following information shall be kept:
1) Whether any emissions were visible from the facilities associated with the thermal oxidizer;
2) Whether visible emissions were normal for the process;

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

3) The cause of the visible emissions; and
4) Corrective action(s) taken.

ix. Whether any deviation occurred during a period of startup, shutdown, or malfunction.

f. The permittee shall maintain records to show capture efficiencies remain constant, including the following information: [401 KAR 52:020, Section 10]
   i. Records of the initial sensor calibrations, validation checks and accuracy audits,
   ii. A log of the monthly leak checks,
   iii. A log of the visual inspections of the sensor systems (monthly for pressure measurements, quarterly for flow measurements),
   iv. Records of all data and documentation used to determine capture efficiency.

g. The permittee shall maintain records of the following for each emission point: [401 KAR 52:020, Section 10]
   i. Monthly hours of operation.
   ii. Monthly and 12-month rolling total throughput;
   iii. Monthly and 12-month rolling coating usage in gallons;
   iv. Monthly and 12-month rolling solvent usage in gallons;
   v. Monthly and 12-month rolling total emissions of PM, PM10, PM2.5, and VOC in tons/yr;
   vi. Monthly natural gas usage in MMscf;
   vii. Pressure drop across the fabric filters, once per shift;
   viii. Weekly visual inspections of paint system filter and key control equipment;
   ix. SDSs for all materials used;
   x. The qualitative visual observations required by **4. Specific Monitoring Requirements (e),** 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.
   xi. The GWP plan required by **1. Operating Limitations** as well as any revisions;
   xii. Maintenance performed on the control equipment.

h. The permittee shall maintain records documenting all deficiencies noted during the monthly operational status inspections and the resulting maintenance that was performed. [401 KAR 52:020, Section 10]

i. 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)]

j. 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)]

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

k. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall include, in the semi-annual report, any time that that an emission point listed above was not operated according to the GWP Plan in **1. Operating Limitations** with a description of the situation and actions taken to remedy the issue. Refer to **5. Specific Recordkeeping Requirements (g)**. [401 KAR 51:017]

b. The permittee shall identify, record, and submit a written report for each deviation from the permitted conditions. [401 KAR 52:020, Section 10]
   i. For the thermal oxidizer, this is each instance in excess of 3 hours during which the average temperature of the thermal oxidizer remains below the limit established during the most recent performance test; and
   ii. For emissions reporting, treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation.

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)]
   (1) 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)]
   (2) 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)]
   (3) 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)]
   (4) The threshold for requiring the implementation of a QIP is an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a semiannual reporting period. [40 CFR 64.8(a)]

e. Refer to **Appendix 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 an exhaust spray booth exhaust air filter system in accordance with manufacturer's specifications capable of controlling emissions to the requirements in **1. Operating Limitations (b)**. [401 KAR 51:017]

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

b. The permittee shall install, calibrate, maintain and operate, in accordance with manufacturer's specifications, a pressure-drop monitoring device for the fabric filters. [401 KAR 52:020, Section 10]

c. The permittee shall install, operate, and maintain a regenerative thermal oxidizer (RTO) that controls VOC emissions from the entire coating operation in accordance with manufacturer's specifications that is capable of controlling emissions to the requirements in **1. Operating Limitations (c)**. [401 KAR 51:017]

d. The RTO must meet the following requirements: [401 KAR 51:017]
   i. The permittee shall install, calibrate, maintain, and operate, in accordance with manufacturer's specifications, a temperature-monitoring device equipped with a continuous recorder in the combustion zone of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs;
   ii. The permittee shall install, calibrate, maintain, and operate temperature monitoring equipment according to manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months; or the chart recorder, data logger, or temperature indicator must be replaced. The permittee must replace the equipment either if the permittee chooses not to perform the calibration, or if the equipment cannot be calibrated properly. Each temperature monitoring device must be equipped with a continuous recorder. The device must have an accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±1 °Celsius, whichever is greater. Before using the sensor for the first time or when relocating or replacing the sensor, the permittee shall perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature;
   iii. The permittee shall conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices; and
   iv. The permittee shall conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used.

e. 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.

Description	Generally Applicable Regulation
1. Scrap Cutting Torches	401 KAR 63:010 401 KAR 63:020
2. Alloy Bunkers	401 KAR 63:010

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, PM_{10}, $PM_{2.5}$, CO, NO_X, SO_2, VOC, opacity, and GHG, 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. Data from the continuous emission and opacity monitors 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
Owensboro Regional Office
3032 Alvey Park Drive
West, Suite 700
Owensboro, KY 42303

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
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].

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)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

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) 2].

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) 4.].

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) 1.].

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

SECTION G - GENERAL PROVISIONS (CONTINUED)

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.

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 of the equipment described herein, EP 06-01 in accordance with the terms and conditions of permit V-20-001 R1.

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.

SECTION G - GENERAL PROVISIONS (CONTINUED)

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 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.

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

SECTION G - GENERAL PROVISIONS (CONTINUED)

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 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 NOx 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:
   (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.

SECTION G - GENERAL PROVISIONS (CONTINUED)

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 82.157.
   (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*.

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

N/A

ATTACHMENT A

COMPLIANCE ASSURANCE MONITORING PLANS (CAM) 40 CFR 64

COMPLIANCE ASSURANCE MONITORING PLAN (CAM)

Pollution Control System for PM Emissions from the Electric Arc Furnace (EAF) Melt Shop Baghouse

I. Applicability

On December 28, 2007, the U.S. EPA issued a National Emission Standards for Hazardous Air Pollutants for the electric arc furnace (EAF) steel industry. This NESHAP was codified as 40 CFR 63, Subpart YYYYY. Pursuant to 40 CFR 63.10686(e), Nucor Steel Brandenburg was required to submit a Compliance Assurance Monitoring (CAM) plan as part of the Initial Title V permit application. This CAM plan addresses the negative pressure baghouse (C0101) that controls particulate emissions from the melt shop, emission unit EU 01.

The melt shop building is evacuated to a negative pressure fabric filter baghouse with a capacity of 1,652,094 dscfm. The Melt Shop Baghouse provides control of particulate emissions from the EAF (EP 01-01), LMF (EP 01-02), Continuous Caster (EP 01-04), and auxiliary emission units located within the melt shop including preheaters/dryers and refractory handling activities. The EAF is equipped with a direct-shell evacuation control (DEC) system and an overhead roof exhaust system consisting of canopy hoods. The DEC system and canopy hoods is vented to the Melt Shop Baghouse (C0101). Baghouse uses PTFE coated fiberglass bags and utilizes pulse jet airflow to clean the bags.

Pollutant: PM/ PM_{10}/$PM_{2.5}$

Emission limits:

M (filterable)	PM_{10}	$PM_{2.5}$
0.0018 gr/dscf; 25.49 lb/hr; 111.64 ton/yr	0.0052 gr/dscf; 73.64 lb/hr; 322.53 ton/yr	0.0034 gr/dscf; 48.15 lb/hr; 210.88 ton/yr

Control Technology: Negative Pressure Baghouse

II. Monitoring Approach

The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in Table 1, below.

III. Rationale for Selection of Performance Indicators

a. Visible emissions (opacity) were selected as a performance indicator because it is an indicator of proper operation and maintenance of the baghouse. When the baghouse is operating optimally, there will be no visible emissions. In general, an increase in visible emissions indicates reduced performance of the baghouse (e.g., loose or torn bags). The emission unit has an opacity standard of less than 3 percent. A 6-minute Method 9 observation is performed daily.

b. The pressure drop through the baghouse is monitored continuously. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough or the cleaning equipment is damaged. Decrease in pressure drop may indicate significant holes and tears or missing bags.

c. Bag leak detection system is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other conditions that result in increases in particulate loadings. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

d. Inspection and preventative maintenance was selected as a performance indicator. Qualified maintenance personnel will conduct the inspection and preventative maintenance in accordance to work practices and scheduling. Visual inspections of the baghouse and key control equipment, such as damper actuators, pressure sensors, fan blades, housing and motors, ductwork, and bag conditions, will be logged into Nucor Steel Brandenburg maintenance tracking system.

e. Emission testing for particulate matter using approved EPA Methods will confirm compliance performance of the baghouse. A performance test on the baghouse is conducted on an annual basis. Testing parameters are consistent with daily operating conditions.

IV. Justification

The operation of the Melt Shop Baghouse (C0101) control systems within the ranges specified below in addition to component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter limits. The BLDS shall be operated in accordance with the requirements of 40 CFR 60, Subpart AAa.

Table 1. Monitoring Approach for Melt Shop Baghouse System (C0101)

CAM Monitoring Approach		**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**	**Indicator No. 4**
I	**Indicator**	*Visible Emissions*	*Pressure Drop*	*Inspection/ Maintenance*	*Performance Test Results*
A.	Measurement Approach	Visible emissions from the baghouse exhaust will be monitored daily using EPA Method 9.	Continuous pressure drop across the baghouse	Weekly inspection according to PM checklist; maintenance performed routinely.	PM emissions will be measured (Method 5 and Method 202) during an annual compliance test ensure permit limits are not exceeded.

CAM Monitoring Approach		Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I	**Indicator**	*Visible Emissions*	*Pressure Drop*	*Inspection/ Maintenance*	*Performance Test Results*
II	**Indicator Range**	An excursion is defined as the presence of visible emissions greater than 3% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. BLDS – An excursion is defined as a triboelectric signal greater than the most recent alarm set point established in the BLDS site specific monitoring plan	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer or defined from the most recent stack test	An excursion is defined as the failure to conduct a weekly inspection or conduct required maintenance.	An excursion is defined as particulate grain loading greater than 0.0050 grain/dscf measured during a compliance test. An excursion results in a repeated test and triggers a reporting requirement.
III	**Performance Criteria**				
A.	Data Representativ	Visual inspection logs will be maintained and audited to ensure VE readings are conducted.	BLDS - 40 CFR 60.273a(e)	Inspections are performed at the baghouse.	The permittee shall comply with the requirements of 40 CFR 60.275a, Test methods and procedures and Appendix M to 40 CFR 51
B	Verification of Ope	Records of the readings (i.e. gas flow rate) will be maintained by the environmental department. Representativeness validated by testing.	Operation in accordance with manufacturer's recommendations	Operation in accordance with manufacturer's recommendations.	Confirmation of records
C	QA/QC Practices &	Use of a certified visible emission observer. BLDS – BLDS monitoring plan as	Annual calibration of pressure gauges unless the manufacturer requires more	Qualified personnel perform inspection.	Measurements are being taken in accordance to Reference Method 5D, 40 CFR 60, Appendix A and

CAM Monitoring Approach		Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I	**Indicator**	*Visible Emissions*	*Pressure Drop*	*Inspection/ Maintenance*	*Performance Test Results*
		approved by the Administrator	frequent calibration		Reference Method 202 and 201A, 40 CFR 51, Appendix M
D	Monitoring Freque	Daily Continuous (BLDS)	Continuous (recorded once every 15 minutes)	Weekly	Annually
IV	**Data Collection Pr**	The VE observer will be familiar with baghouse operations and be a certified VE reader. BLDS logged electronically.	Pressure drop for each compartment is logged electronically, once every 15 minutes	Records are maintained to document inspections and any required maintenance.	Compliance test results are reported within 45 days of the completion of the field work.
V	**Averaging Period**	6 minute average	N/A	N/A	3 heats and 240 minutes
VI	**Recordkeeping**	Maintain records for a period of 5 years.	Maintain records for a period of 5 years.	Maintain records for a period of 5 years.	Maintain test results for a period of 5 years.
VII	**Reporting**	Number, duration, cause of any excursion, and corrective action taken.	Number, duration, cause of any excursion and the corrective action taken.	Number, duration, cause of any excursion and the corrective action taken.	Submit test protocol and final test results to the Division for Air Quality.

COMPLIANCE ASSURANCE MONITORING PLAN (CAM)

Pollution Control System for PM Emissions from EP 04-01
Description: Shot Blaster Baghouse (C0401)

The steel plates are descaled in a shot blast unit (EP 04-01) to remove any metal oxide scale, which could affect the plate surface quality if not removed prior to quenching and tempering. The shot blast unit is an integral, all welded unit, divided into four (4) compartments - an entrance vestibule, the blast compartment, a blow-off compartment to house the abrasive removal system, and an exit vestibule. Each vestibule is equipped with a series of slit rubber curtains to permit passage of the work piece and retain rebounding abrasive. Fresh air enters the cabinet through the work openings and is exhausted through a ventilating hood to the baghouse (C0401).

I. Applicability

Applicable regulation:

401 KAR 51:017, *Prevention of significant deterioration of air quality*

401 KAR 59:010, *New process operations*

Pollutant: PM/ PM_{10}/$PM_{2.5}$

Emission limits:

PM (filterable)	PM_{10}	$PM_{2.5}$
0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr	0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr	0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Control Technology: Baghouse

II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in Table 3, below. The selected performance indicators are daily measurement of pressure drop, weekly qualitative visual observations for visible emissions, and monthly equipment operational status inspections.

Monitoring Requirements:

a. Daily monitoring of pressure drop across the baghouse;
b. Weekly qualitative visual observation of the opacity of emissions; and
c. Monthly operational status inspection of the equipment.

III. Rationale for Selection of Performance Indicators and Justification

a. The indicator range for the Shot Blaster Baghouse pressure differential is 0 – 6 inches H_2O. The indicator range was selected based on manufacturer specifications. The pressure drop through the baghouse is monitored continuously. All excursions will be documented and reported. An indicator range of 0 – 6 inches H_2O was selected because a pressure differential greater than 6 inches H_2O is indicative that the cleaning cycle is not frequent

enough or the cleaning equipment is damaged. The indicator range was also selected based on the facility's permit requirements.

b. The indicator range for visible emissions is any visible emissions observed from the baghouse stack, not including condensed water in the plume. If visible emissions from the stack are observed, an inspection will be initiated and corrective actions taken as necessary. If visible emissions are observed after implementing corrective actions, the opacity will be determined using EPA Reference Method 9. All visible emissions observations will be documented, including whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. The indicator range was selected based on the facility's permit requirements.

c. The indicator range for maintenance and inspection is the completion of a monthly inspection, during a month when the equipment (Shot Blaster and air pollution control system) operates, by trained personnel; an excursion occurs if the required inspection is not performed. If damage to the equipment, capture system, or shot blaster baghouse is observed, additional inspection will be initiated and corrective actions will be taken as necessary. All inspections, maintenance, corrective actions, and excursions will be documented. The indicator range was selected based on the facility's permit requirements.

Table 3. Monitoring Approach for Shot Blaster Baghouse (C0401)

CAM Monitoring Approach		**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**
I	**Indicator**	*Visible Emissions*	*Inspection/Maintenance*	*Pressure Differential*
A.	Measurement Approach	Visible emissions from the stack exhaust will be monitored once every week using a qualitative visual observation	Monthly inspection; maintenance performed routinely.	Daily pressure drop across the baghouse.
II	**Indicator Range**	An excursion is defined as the presence of any visible emissions leaving the stack (not including condensed water in the plume). Excursions trigger an inspection, corrective actions, and a reporting requirement	An excursion is defined as the failure to conduct the required inspection, or maintenance.	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer (0 – 6 inches H_2O). Excursions trigger an inspection, corrective action, and a reporting requirement.
III	**Performance Criteria**			
A.	Data Representativeness	Visual inspection logs will be maintained and audited to ensure observations are being conducted.	Inspections are performed on the capture system and baghouse	Pressure differential will be monitored and recorded daily. Logs will be audited to ensure readings are conducted.
B	Verification of Operational Status	Records of the readings will be maintained by the Environmental Department.	Confirmation of records	Operation in accordance with manufacturer's recommendations

CAM Monitoring Approach		Indicator No. 1	Indicator No. 2	Indicator No. 3
I	**Indicator**	*Visible Emissions*	*Inspection/Maintenance*	*Pressure Differential*
C	QA/QC Practices & Criteria	Qualified personnel to perform observations	Qualified personnel perform inspection and maintenance.	Annual calibration of pressure gauges
D	Monitoring Frequency	Weekly	Monthly	Daily
IV	**Data Collection Procedures**	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format	Daily pressure drop across the baghouse logged electronically or in hardcopy format
V	**Averaging Period**	NA	NA	NA
VI	**Recordkeeping**	Maintain records for a period of 5 years.	Maintain records for a period of 5 years.	Maintain test results for a period of 5 years.
VII	**Reporting**	Number, duration, cause of excursion, and corrective action taken.	Number, duration, cause of any excursion and the corrective action taken.	Number, duration, cause of excursion, and corrective action taken

COMPLIANCE ASSURANCE MONITORING PLAN (CAM)

Pollution Control System for PM Emissions from EP 18-03
Description: Blast and Prime line RTO (C1803A) & Paint Filters (C1803B)

An automatic painting system (EP 18-03) within the painting cabinet (EU 18) applies the primer at the specified coating thickness. Airborne paint particles are extracted by the optimized linear airflow of the air extraction system and transported directly to a brush pre-separator. This system catches most of the paint overspray particles and reduces the particle load to the downstream paint filtration system (C1803B). Following the paint filtration system (C1803B), the airflow is routed to a regenerative thermal oxidizer (RTO) (C1803A) for destruction of the VOC emitted from the painting and drying operations (EP 18-03 and EP 18-05) within the painting cabinet (EU 18). After leaving the painting system (EP 18-03), the coated plates pass through the paint dryer (EP 18-05) for final curing to allow immediate handling of the plate without damaging the coating. The paint dryer (EP 18-05) is heated with the excess heat exhausted from the pre-heater (EP 18-01). The dryer (EP 18-05) also is equipped with a 95 Btu/hr burner that is used to bring the dryer up to operating temperature during a cold start or to supplement the excess heat from the pre-heater (EP 18-01) if needed. Recirculating fans and special air channels provide a consistent and homogeneous flow of hot air around the plates. Exhaust from the dryer (EP 18-05) is routed to the RTO (C1803A) for VOC control.

I. Applicability

Applicable regulation:

401 KAR 51:017, *Prevention of significant deterioration of air quality*
401 KAR 59:010, *New process operations*
401 KAR 59:225, *New miscellaneous metal parts and products surface coating operations*
401 KAR 63:020, *Potentially hazardous matter or toxic substances*

Pollutant: VOC and PM/ PM_{10}/$PM_{2.5}$

Emission limits:

PM (filterable)	PM_{10}	$PM_{2.5}$	VOC
0.51 lb/hr; 2.24 ton/yr	0.53 lb/hr; 2.30 ton/yr	0.53 lb/hr; 2.30 ton/yr	5.52 lb/hr; 24.20 ton/yr

Control Technology: Booth Filter; Regenerative thermal oxidizer (RTO)

II. Monitoring Approach

The key elements of the monitoring approach for PM and VOC emissions are presented in Table 4, below. The selected performance indicators are the continuous monitoring of the RTO combustion chamber temperature, capture system monitoring, daily qualitative visual observation for visible emissions, weekly visual inspections of the paint system filter and key

control equipment, pressure drop across the paint system filter at least once per shift, and a monthly operational status inspection of the equipment.

Monitoring Requirements:

a. Continuous monitoring and recordkeeping of the combustion temperature of the RTO;
b. Capture system monitoring in accordance with the facility's capture system monitoring plan;
c. Daily qualitative visual observation of the opacity of emissions when the affected facility is in operation;
d. Weekly visual inspection of paint system filter and key control equipment;
e. Pressure drop across the paint system filter at least once per shift; and
f. Monthly operational status inspection of the equipment.

III. Rationale for Selection of Performance Indicators and Justification

a. The indicator range for the Blast and Prime Lime RTO combustion chamber temperature is a 3-hour average greater than or equal to 1,557.97° F. The stack test demonstrated the RTO's VOC destruction efficiency. VOC destruction efficiency is impacted by the RTO combustion chamber temperature. If the combustion chamber temperature (on a 3-hour average basis) falls below the tested value, a destruction efficiency of zero will be assumed for the 3-hour time period, regarding compliance with emissions limitations. Additionally, all excursions will be documented and reported. The indicator range was also selected based on the facility's permit requirements.

b. The rationale and justification for the capture system monitoring plan will be completed upon the completion of a compliance test.

c. The indicator range for visible emissions is any visible emissions observed from the stack, not including condensed water in the plume. If visible emissions from the stack are observed, an inspection will be initiated and corrective actions taken as necessary. If visible emissions are observed after implementing corrective actions, the opacity will be determined using EPA Reference Method 9. All visible emissions observations will be documented, including whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. The indicator range was selected based on the facility's permit requirements.

d. The indicator range for maintenance and inspection is the completion of a weekly inspection, during a week when the equipment (painting cabinet, capture system, paint filtration system, RTO, and ductwork) operates, by trained personnel; an excursion occurs if the required inspection is not performed. If damage to the equipment is observed, additional inspection will be initiated, and corrective actions will be taken as necessary. All inspections, maintenance, corrective actions, and excursions will be documented. The indicator range was selected based on the facility's permit requirements.

e. The indicator range for the Blast and Prime Line paint system filter pressure differential is based on manufacturers' design criteria. The indicator range was selected based on manufacturer specifications. The pressure drop through the filter is monitored continuously. All excursions will be documented and reported. An indicator range within

the manufacturer's specifications was selected because a pressure differential greater than that range is indicative that the cleaning cycle is not frequent enough or the cleaning equipment is damaged. The indicator range was also selected based on the facility's permit requirements.

Table 4. Monitoring Approach for Blast and Prime line RTO (C1803A) & Paint Filters (C1803B)

CAM Monitoring Approach		**Indicator No. 1**	**Indicator No. 2**	**Indicator No. 3**	**Indicator No. 4**	**Indicator No. 5**	**Indicator No. 6**
I	**Indicator**	*RTO Combustion Chamber Temperature*	*Capture System Monitoring*	*Opacity*	*RTO and Filter Weekly Visual Inspections*	*Pressure Drop*	*Inspection Program*
A.	Measurement Approach	Thermocouple	To be completed upon the completion of a compliance test	Qualitative visual observation	Visual inspection of paint system filter and RTO	Pressure drop across the paint system filter	Visual inspection of painting cabinet, capture system, paint filtration system, RTO, and ductwork
II	**Indicator Range**	An excursion is defined as a 3-hour average combustion temperature below the temperature established during the most recent performance test which records the temperature (1,557.97° F)	To be completed upon the completion of a compliance test	An excursion is defined as an observation of visible emissions (not including condensed water in the plume) or a failure to perform the weekly observation	An excursion is defined as failure to perform the weekly inspection during a week the equipment operated	An excursion is defined as a pressure drop outside the range recommended by the manufacturer	An excursion is defined as failure to perform the monthly inspection during a month the equipment operated
III	**Performance Criteria**						
A.	Data Representativeness	The RTO combustion chamber temperature is measured. The minimum acceptable accuracy of the meter is ±0.75 percent of the temperature being monitored in degrees Celsius, or ±1	To be completed upon the completion of a compliance test	Observations are made of the emissions from the RTO stack (EP 18-03)	Inspections are performed on the paint system filter and RTO	Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted	Inspections are performed on the painting cabinet, capture system, paint filtration system, RTO, and ductwork

CAM Monitoring Approach		Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I	**Indicator**	*RTO Combustion Chamber Temperature*	*Capture System Monitoring*	*Opacity*	*RTO and Filter Weekly Visual Inspections*	*Pressure Drop*	*Inspection Program*
		°Celsius, whichever is greater					
B	Verification of Operational Status	Operation in accordance with manufacturer's recommendations	To be completed upon the completion of a compliance test.	Confirmation of records	Confirmation of records	Operation in accordance with manufacturer's recommendations	Confirmation of records
C	QA/QC Practices & Criteria	The calibration of the thermocouple will be verified every 3 months. Acceptance criteria: ±0.75 percent of the temperature being monitored in degrees Celsius, or ±1 °Celsius, whichever is greater	To be completed upon the completion of a compliance test	Trained personnel perform observations	Trained personnel perform inspections and maintenance	Annual calibration of pressure gauges	Trained personnel perform inspections and maintenance
D	Monitoring Frequency	Continuous (recorded at least once every 15 minutes)	To be completed upon the completion of a compliance test	Daily (while the affected facility is operating)	Weekly	At least once per shift	Monthly
IV	**Data Collection Procedures**	RTO combustion chamber temperature is logged electronically continuously (at least once every 15 minutes)	To be completed upon the completion of a compliance test.	Daily VE readings logged electronically or in hardcopy format.	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format	Pressure drop across the baghouse logged electronically or in hardcopy format at least once per shift	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format

CAM Monitoring Approach		Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I	**Indicator**	*RTO Combustion Chamber Temperature*	*Capture System Monitoring*	*Opacity*	*RTO and Filter Weekly Visual Inspections*	*Pressure Drop*	*Inspection Program*
V	**Averaging Period**	3 hours	To be completed upon the completion of a compliance test.	NA	NA	NA	NA