



# Title V Permit Renewal Application

PREPARED FOR  
Nucor Steel Brandenburg

DATE  
January 2025

REFERENCE  
0759930



SIGNATURE PAGE

# Title V Permit Renewal Application

0759930

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## 1. INTRODUCTION

Nucor Steel Brandenburg (NSBB, Nucor, or the facility), a subsidiary of Nucor Corporation (Nucor), is a plate steel manufacturing plant (SIC 3312) in Brandenburg, Kentucky (Meade County). Nucor currently operates under Title V Permit Number V-20-001 R2, which was issued on July 23, 2020 and most recently revised on June 20, 2024. The Title V Permit will expire on July 23, 2025. An application for a permit renewal must be submitted at least 6 months prior to the expiration date of the Title V Permit. Provided that a complete application is submitted in a timely fashion, the source may continue to operate under the expired permit. Therefore, Nucor submits this Title V Permit Renewal Application in accordance with Kentucky Administrative Regulations (KAR) 401 Chapter 52:020 Section 12. Per KAR 401 Chapter 52:020 Section 4, within this application, Nucor provides only the information that is new or different from the most recent source-wide permit application and certification by a responsible official. Additionally, Nucor is including the Continuous Assurance Monitoring (CAM) plans for other pollutant-specific emission units as required by 40 CFR 64.5(b).

## 2. FACILITY DESCRIPTION

The NSBB plate mill recycles scrap steel and scrap substitutes using the EAF process. Scrap steel and scrap substitutes are delivered to the facility by barge, rail, and truck. Scrap steel, scrap substitutes, carbon, and flux are charged to the EAF and melted by applying electric current through the feed mixture. Molten metal is tapped to a ladle and transferred to the LMF, where the chemistry and temperature of the steel is adjusted to customer specifications. From the LMF, the molten metal may be transferred to a vacuum degasser prior to being cast as slabs. The slabs are heated to a consistent temperature in a reheat furnace and car bottom furnaces prior to being rolled and shaped to its final form as hot rolled plate coils, light plates, or heavy plates.

Nucor has an annual steel production rate of 1.75 million tons per year. Additional emission units are present to support the production processes.

Section 3 summarizes the proposed changes being requested for inclusion in the permit renewal.

### 3. PROPOSED PERMIT REVISIONS

The proposed permit revisions discussed in this section include the following:

1. Addition of an insignificant activity, Scrap Cutting Torches;
2. Addition of an insignificant activity, Alloy Bunkers;
3. Increase in the annual throughput of EP 01-08A – Tundish Preparation – Dump Station from 1,800 tons refractory/year to 2,300 tons refractory/year;
4. Reallocation of emissions to associated release points (06-01, 06-03, 06-05);
5. Revision of the description for EP 12-04 – Slag Plant Oxy Fuel-Fired Torches;
6. Revision of the description for EP 16-01 – Cleaning Tanks;
7. Decrease in the annual throughput of EP 18-02 – Blast & Paint Line Shot Blaster from 1,000,000 tons/year to 132,000 tons/year
8. Removal of EP 05-04 – Heavy Plate Tagger;
9. Removal of EP 15-01 – Natural Gas Direct-Fired Heaters, Process Water Heaters & Air Makeup Heaters;
10. Removal of EP 15-02 – Gasoline Storage Tanks #1 & #2.

#### 3.2 ADDITION OF INSIGNIFICANT ACTIVITY – SCRAP CUTTING TORCHES

Nucor submitted a request for an off-permit change on June 20, 2024, which requested using up to eight (8) propane gas torches to process 30,000 tons of steel slabs from July 15, 2024 to October 23, 2024. This request was approved by the Kentucky Energy and Environment Cabinet, Department for Environmental Protection on July 8, 2024. Nucor still has a need to process steel slabs and, therefore requests that the propane-fueled scrap cutting torches be added as an insignificant activity.

KAR 401 Chapter 52:020 Section 6 details that an insignificant activity shall (1) have a potential to emit less than or equal to one-half ton per year of combined hazardous air pollutants (HAPs), (2) have a potential to emit less than or equal to five (5) tons per year of a nonhazardous regulated air pollutant, (3) shall not involve the incineration of medical waste, and (4) shall not be subject to a federally enforceable requirement, other than generally applicable requirements. Nucor believes the scrap cutting torches meet the conditions to be classified as an insignificant activity. The potential to emit calculations for the scrap cutting torches are included in Appendix B to support this determination.

#### 3.3 ADDITION OF INSIGNIFICANT ACTIVITY – ALLOY BUNKERS

Nucor requests additional alloy storage be added to the facility. The storage will be four (4) 3-sided alloy bunkers and a surrounding building. Please note that the increase in storage will not affect the short or long term capacity of any other emission units at the facility.



KAR 401 Chapter 52:020 Section 6 details that an insignificant activity shall (1) have a potential to emit less than or equal to one-half ton per year of combined hazardous air pollutants (HAPs), (2) have a potential to emit less than or equal to five (5) tons per year of a nonhazardous regulated air pollutant, (3) shall not involve the incineration of medical waste, and (4) shall not be subject to a federally enforceable requirement, other than generally applicable requirements. Nucor believes the alloy bunkers meet the conditions to be classified as an insignificant activity. The potential to emit calculations for the alloy bunkers are included in Appendix B to support this determination.

### 3.4 INCREASE IN THE ANNUAL THROUGHPUT LIMIT OF EP 01-08A – TUNDISH PREPARATION – DUMP STATION

Nucor requests that the annual throughput limit of EP 01-08A – Tundish Preparation – Dump Station be increased from 1,800 tons refractory per year to 2,300 tons refractory per year. Please note the potential to emit calculations and BACT limitations were based on the assumption that the maximum hourly rate of 2.7 tons/hr was multiplied by 8,760 hours per year. Therefore, the potential to emit calculations and long term modeling rates were based on a long term capacity of 23,652 tons per year. Therefore, Nucor believes that this increase will not affect other permitted limitations or BACT determinations.

### 3.5 REALLOCATION OF EMISSIONS TO ASSOCIATED RELEASE POINTS (06-01, 06-03, 06-05)

As built conditions at Nucor are that only EP 06-01 – EAF Flux and Carbon Handling vents to C0601 and EP 06-03 – LMF Flux and Carbon Handling and 06-05 – LMF Alloy Unloading vent to C0605. The reallocated stacks were incorporated into the air dispersion modeling, submitted in the March 2024 reconciliation of as-built changes application. This reallocation was requested in the March 2024 reconciliation of as-built changes application but was not applied to the permit.

### 3.6 REVISION IN THE DESCRIPTION FOR EP 12-04 – SLAG PLANT OXY FUEL-FIRED TORCHES

Nucor would like to update the previously submitted process description for EP-12-04 – Slag Plant Oxy-Fuel Fired Torches. In previous applications, EP 12-04 was described as five (5) oxy fuel-fired handheld torches. Nucor would like to replace some of the handheld torches with a track torch. Therefore, Nucor would like the process description to be updated to slag plant oxy fuel-fired handheld and track torches. Nucor requests that the short and long term capacity, natural gas consumption, and BACT limits remain unrevised. The replacement will not result in increased capacity and the maximum natural gas consumption will be at or below what is currently permitted.

### 3.7 REVISION IN THE DESCRIPTION FOR EP 16-01 – CLEANING TANKS

Nucor would like to update the previously submitted process description for EP-16-01 – Cleaning Tanks. In previous applications, EP 16-01 was described as 16 cleaning tanks, however, Nucor no longer needs four (4) of the cleaning tanks. Therefore, Nucor would like the process description to be updated to 12 cleaning tanks.

### 3.8 DECREASE IN THE ANNUAL THROUGHPUT LIMIT OF EP 18-02 – BLAST & PAINT LINE SHOT BLASTER

Nucor requests that the annual throughput limit of EP 18-02 – Blast & Paint Line Shot Blaster be decreased from 1,000,000 tons per year to 132,000 tons per year. Please note the potential to emit calculations and BACT limitations are based on the grain loading and exhaust flow rate of the dust collector. Therefore, Nucor believes that this decrease will not affect other permitted limitations, BACT determinations, or modeled emission rates.

### 3.9 REMOVAL OF EMISSION UNITS

Nucor requests the removal of the following sources from the Title V permit as they are not present at the facility:

1. EP 05-04 – Heavy Plate Tagger;
2. EP 15-01 – Natural Gas Direct-Fired Heaters, Process Water Heaters & Air Makeup Heaters;  
and
3. EP 15-02 Gasoline Storage Tanks #1 & #2.

## 4. REGULATORY ANALYSIS

The following regulatory analysis identifies potentially applicable state and federal air quality regulations and explains why each regulation is or is not considered applicable to the proposed project.

### 4.1 KENTUCKY AIR QUALITY REGULATIONS

Nucor is located in Meade County, which is designated as attainment/unclassifiable for all National Ambient Air Quality Standards (NAAQS) as per the Kentucky Administrative Regulations, 401 KAR 51:010.

#### 4.1.1 401 KAR 50 – DIVISION FOR AIR QUALITY; GENERAL ADMINISTRATIVE PROCEDURES

The purpose of 401 KAR Chapter 50 is to establish general procedures and requirements relating to fees, modeling, engineering practice, monitoring, testing, and compliance. Nucor shall comply with the procedures and requirements of this chapter.

#### 4.1.2 401 KAR 51:017 - PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Prevention of Significant Deterioration (PSD) applies to new major stationary sources or major modifications at existing major stationary sources located in NAAQS attainment or unclassifiable areas. The NSBB Mill is located in Meade County. Meade County has been designated by the U.S. EPA as "attainment" for all criteria pollutants. Therefore, the potentially applicable federal construction-permitting program to the NSBB Mill is the PSD permitting program. A facility is major stationary source under the PSD permitting program if it is:

1. One of the listed stationary source categories in 401 KAR 51:017 Section 7(1)(c) and has the potential to emit greater than 100 tons per year of one or more regulated NSR pollutants; or
2. Any other stationary source which has the potential to emit 250 tons per year or more of a regulated NSR pollutant.

The NSBB Mill is one of the listed stationary source categories in 401 KAR 51:001, Section 1(118) and emissions have the potential to exceed 100 tons per year for several regulated NSR pollutants; therefore, the mill is considered a major source under the PSD permitting program. However, this application is not for a new major stationary source or a major modification, therefore PSD is not triggered.

#### 4.1.3 401 KAR 63:010 – FUGITIVE EMISSIONS

401 KAR 63:010 establishes requirements for an apparatus, operation, or road that emits or may emit fugitive emissions, provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard. Nucor shall take reasonable precautions to prevent PM from becoming airborne. Such precautions include, but are not limited to the approaches in 401 KAR 63:010, Section 3(1) and 4(1), listed below:

1. "Use, where possible, 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;
2. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;
3. 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;
4. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
5. The maintenance of paved roadways in a clean condition;
6. 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."
7. Covering open bodied trucks that are operating outside company property that are transporting materials likely to become airborne.

Additionally, Nucor shall ensure there is no "discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate," as required by 401 KAR 63:010, Section 3(2) and shall not allow "earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway" as per 401 KAR 63:010, Section 4(3). Because Nucor is such a large facility, there are several "internal" lot lines on the property. For clarity, the visible emission requirements that are applicable to the "lot line" in 401 KAR 63:010 only apply to the external lot line of the property.

#### 4.1.4 401 KAR 63:020 – POTENTIALLY HAZARDOUS MATTER OR TOXIC SUBSTANCES

This regulation applies to emissions of potentially hazardous matter or toxic substances, which are not subject to provisions of any other regulations of the Division for Air Quality. As defined in 401 KAR 63:020, Section 2:

"Potentially hazardous matter or toxic substances means matter which may be harmful to the health and welfare of humans, animals, and plants, including, but not limited to, antimony, arsenic, bismuth, lead, silica, tin, and compounds of such materials."

Nucor shall control the emissions of potentially hazardous matter and toxic substances to ensure they are not emitted "in such quantities or duration as to be harmful to the health and welfare of humans, animals, and plants," as per 401 KAR 63:020, Section 3.

## 4.2 FEDERAL AIR QUALITY REGULATIONS

### 4.2.1 NEW SOURCE PERFORMANCE STANDARDS

New Source Performance Standards (NSPS) require new, modified, or reconstructed sources to control emissions to the level achievable by the best-demonstrated technology as specified in the

applicable provisions. The NSPS regulations are codified under 40 CFR Part 60. Nucor does not believe that NSPS subpart applicability will be affected by the proposed changes.

#### 4.2.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

National Emission Standards for Hazardous Air Pollutants (NESHAP) are emission standards that are generally applicable to major sources of HAPs, but also apply to certain area sources of HAPs. The NESHAP regulations are codified under 40 CFR Parts 61 and 63. Nucor does not believe that NESHAP subpart applicability will be affected by the proposed changes.

#### 4.2.3 COMPLIANCE ASSURANCE MONITORING

Under 40 CFR Part 64, CAM regulations, facilities are required to prepare and submit monitoring plans for certain emission units with the initial or renewal Part 70 operating permit application. Under the general applicability criteria, CAM only applies to each pollutant-specific emission unit (PSEU) that satisfies the following criteria pursuant to 40 CFR 64.2(a)(1)-(3):

1. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
2. The unit uses an active control device to achieve compliance with an emission limitation or standard; and
3. The unit has potential pre-control device emissions, of the applicable regulated air pollutant, equal to or greater than the amount (tons per year) required to classify the unit as a major source under Part 70.

Pursuant to 40 CFR 64.2(b), CAM does not apply to any emission unit that is subject to a NSPS or NESHAP promulgated after November 15, 1990, as these standards are designed with monitoring that provides a reasonable assurance of compliance.

As defined in 40 CFR 64.1 a "control device", for purposes of this part does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics.

Nucor employs low-NO<sub>x</sub> burners in most of the fuel burning equipment. The objective in the application of low-NO<sub>x</sub> burners is to minimize NO<sub>x</sub> formation, while maintaining acceptable combustion of carbon and hydrogen in the fuel. As the primary purpose of the low-NO<sub>x</sub> burners is to prevent the formation of pollutants, they are defined as a passive control measure and a CAM plan is not required.

In accordance with 40 CFR 64.5(a), a CAM plan is required as part of an application for an initial Title V permit for large PSEUs, units whose post-controlled emissions are greater than the major source emission thresholds, that satisfy the CAM general applicability criteria. The Melt Shop Baghouse is the only egress point with controlled emissions (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>) greater than the major source emission thresholds, subject to an emission limitation or standard, and uses an active control device to achieve compliance with the emission limitation or standard. Therefore, a CAM Plan for the Melt Shop Baghouse was submitted with the initial Title V permit application and was approved by the Kentucky DAQ as Attachment A to Permit V-20-001 R2. Nucor is not

requesting any changes to the negative pressure baghouse (C0101) that controls particulate emissions from the Melt Shop (EU 01).

In accordance with 40 CFR 64.5(b) a CAM plan is required as a part of an application for a renewal of a Title V permit for other PSEUs that satisfy the CAM general applicability criteria. CAM has been determined to be applicable to the following sources:

1. EP 03-04A – Steckel Mill Finishing Stand for (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>);
2. EP 04-01 – Continuous Heat Treat Line Shot Blaster for (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>); and
3. EP 18-03 – Plate Painting Operations ((PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC).

Please note, EP 18-02 was initially determined to be CAM applicable. However, upon review of the source, Nucor determined that the permitted annual throughput is significantly higher than the maximum annual throughput of the Blast & Paint Line Shot Blaster. Nucor requests a decrease in the permitted annual throughput in this application. After quantifying the annual uncontrolled emission rates, it was determined that the Blast & Paint Shot Blaster is not CAM applicable.

Nucor has included the proposed CAM plans for these sources in Appendix C



APPENDIX A

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION – AIR – PERMIT APPLICATION  
FORMS

**Division for Air Quality**

300 Sower Boulevard  
 Frankfort, KY 40601  
 (502) 564-3999

**DEP7007AI**

**Administrative Information**

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

**Additional Documentation**

Additional Documentation attached

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/10/2025

**Section AI.1: Source Information**

<b>Physical Location</b>	<b>Street:</b>	<u>100 Ronnie Greenwell Road</u>			
<b>Address:</b>	<b>City:</b>	<u>Brandenburg</u>	<b>County:</b>	<u>Meade</u>	<b>Zip Code:</b> <u>40108</u>
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>100 Ronnie Greenwell Road</u>			
	<b>City:</b>	<u>Brandenburg</u>	<b>State:</b>	<u>KY</u>	<b>Zip Code:</b> <u>40108</u>

**Standard Coordinates for Source Physical Location**

**Longitude:** 38.00404 (decimal degrees)      **Latitude:** -86.1368 (decimal degrees)

**Primary (NAICS) Category:** Iron and Steel Mill and Ferroalloy Manufacturing      **Primary NAICS #:** 331110

<b>Classification (SIC) Category:</b>		<u>33-Primary Metal Industries</u>		<b>Primary SIC #:</b>		<u>3316</u>	
<b>Briefly discuss the type of business conducted at this site:</b>		<u>Steel manufacturing</u>					
<b>Description of Area Surrounding Source:</b>	<input type="checkbox"/> Rural Area	<input type="checkbox"/> Industrial Park	<input type="checkbox"/> Residential Area	<b>Is any part of the source located on federal land?</b>	<input type="checkbox"/> Yes	<b>Number of Employees:</b>	400
	<input type="checkbox"/> Urban Area	<input checked="" type="checkbox"/> Industrial Area	<input type="checkbox"/> Commercial Area		<input checked="" type="checkbox"/> No		
<b>Approximate distance to nearest residence or commercial property:</b>		<u>1000 ft</u>		<b>Property Area:</b>	<u>770 acres</u>		<b>Is this source portable?</b> <input type="checkbox"/> Yes   <input type="checkbox"/> No
<b>What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?</b>							
<b>NPDES/KPDES:</b>	<input checked="" type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input type="checkbox"/> N/A				
<b>Solid Waste:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A				
<b>RCRA:</b>	<input checked="" type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input type="checkbox"/> N/A				
<b>UST:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A				
<b>Type of Regulated Waste Activity:</b>	<input type="checkbox"/> Mixed Waste Generator	<input checked="" type="checkbox"/> Generator	<input type="checkbox"/> Recycler	<input type="checkbox"/> Other: _____			
	<input type="checkbox"/> U.S. Importer of Hazardous Waste	<input type="checkbox"/> Transporter	<input type="checkbox"/> Treatment/Storage/Disposal Facility	<input type="checkbox"/> N/A			

## Section A1.2: Applicant Information

<b>Applicant Name:</b>	<u>Nucor Steel Brandenburg</u>			
<b>Title:</b> (if individual)	_____			
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>100 Ronnie Greenwell Road</u>		
	<b>City:</b>	<u>Brandenburg</u>	<b>State:</b>	<u>KY</u>
			<b>Zip Code:</b>	<u>40108</u>
<b>Email:</b> (if individual)	_____			
<b>Phone:</b>	_____			

### Technical Contact

<b>Name:</b>	<u>Zachary Straney</u>			
<b>Title:</b>	<u>Environmental Engineer</u>			
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>100 Ronnie Greenwell Road</u>		
	<b>City:</b>	<u>Brandenburg</u>	<b>State:</b>	<u>KY</u>
			<b>Zip Code:</b>	<u>40108</u>
<b>Email:</b>	<u>zachary.straney@nucor.com</u>			
<b>Phone:</b>	<u>270-750-8054</u>			

### Air Permit Contact for Source

<b>Name:</b>	<u>Zachary Straney</u>			
<b>Title:</b>	<u>Environmental Engineer</u>			
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>100 Ronnie Greenwell Road</u>		
	<b>City:</b>	<u>Brandenburg</u>	<b>State:</b>	<u>KY</u>
			<b>Zip Code:</b>	<u>40108</u>
<b>Email:</b>	<u>zachary.straney@nucor.com</u>			
<b>Phone:</b>	<u>270-750-8054</u>			

**Section AI.3: Owner Information**

**Owner same as applicant**

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Mailing Address:** **Street or P.O. Box:** \_\_\_\_\_  
**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip Code:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**List names of owners and officers of the company who have an interest in the company of 5% or more.**

Name	Position
_____	_____
_____	_____
_____	_____

**Section AI.4: Type of Application**

**Current Status:**       Title V    Conditional Major    State-Origin                       General Permit                       Registration                       None

**Requested Action:**  
(check all that apply)

Name Change       Initial Registration       Significant Revision                       Administrative Permit Amendment

Renewal Permit       Revised Registration       Minor Revision                       Initial Source-wide Operating Permit

502(b)(10) Change       Extension Request       Addition of New Facility                       Portable Plant Relocation Notice

Revision                       Off Permit Change       Landfill Alternate Compliance Submittal       Modification of Existing Facilities

Ownership Change       Closure

**Requested Status:**       Title V    Conditional Major    State-Origin       PSD       NSR                       Other: \_\_\_\_\_

**Is the source requesting a limitation of potential emissions?**                       Yes       No

<p><b>Pollutant:</b></p> <p><input type="checkbox"/> Particulate Matter                      _____</p> <p><input type="checkbox"/> Volatile Organic Compounds (VOC)                      _____</p> <p><input type="checkbox"/> Carbon Monoxide                      _____</p> <p><input type="checkbox"/> Nitrogen Oxides                      _____</p> <p><input type="checkbox"/> Sulfur Dioxide                      _____</p> <p><input type="checkbox"/> Lead                      _____</p>	<p><b>Pollutant:</b></p> <p><input type="checkbox"/> Single HAP                      _____</p> <p><input type="checkbox"/> Combined HAPs                      _____</p> <p><input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)                      _____</p> <p><input type="checkbox"/> Carbon Dioxide                      _____</p> <p><input type="checkbox"/> Greenhouse Gases (GHG)                      _____</p> <p><input type="checkbox"/> Other                      _____</p>
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**For New Construction:**

**Proposed Start Date of Construction:**                      \_\_\_\_\_                      **Proposed Operation Start-Up Date:** (MM/YYYY)                      \_\_\_\_\_  
(MM/YYYY)

**For Modifications:**

**Proposed Start Date of Modification:**                      \_\_\_\_\_                      **Proposed Operation Start-Up Date:** (MM/YYYY)                      \_\_\_\_\_  
(MM/YYYY)

**Applicant is seeking coverage under a permit shield.**                       Yes       No                      **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

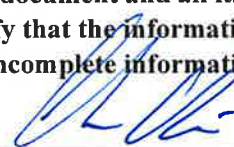
**Section AI.5 Other Required Information**

Indicate the documents attached as part of this application:

- |  |   |
|--|---|
| <input type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines                        | <input type="checkbox"/> DEP7007CC Compliance Certification                       |
| <input checked="" type="checkbox"/> DEP7007B Manufacturing or Processing Operations            | <input checked="" type="checkbox"/> DEP7007DD Insignificant Activities            |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners                               | <input type="checkbox"/> DEP7007EE Internal Combustion Engines                    |
| <input type="checkbox"/> DEP7007F Episode Standby Plan   | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing                  |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage                                      | <input type="checkbox"/> DEP7007GG Control Equipment                              |
| <input checked="" type="checkbox"/> DEP7007K Surface Coating or Printing Operations            | <input type="checkbox"/> DEP7007HH Haul Roads                                     |
| <input type="checkbox"/> DEP7007L Mineral Processes  | <input type="checkbox"/> Confidentiality Claim                                    |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers                                    | <input type="checkbox"/> Ownership Change Form                                    |
| <input checked="" type="checkbox"/> DEP7007N Source Emissions Profile                          | <input type="checkbox"/> Secretary of State Certificate                           |
| <input type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems                       | <input type="checkbox"/> Flowcharts or diagrams depicting process                 |
| <input type="checkbox"/> DEP7007R Emission Offset Credit                                       | <input type="checkbox"/> Digital Line Graphs (DLG) files of buldings, roads, etc. |
| <input type="checkbox"/> DEP7007S Service Stations   | <input type="checkbox"/> Site Map   |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations               | <input type="checkbox"/> Map or drawing depicting location of facility            |
| <input checked="" type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities | <input type="checkbox"/> Safety Data Sheet (SDS)                                  |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination     | <input type="checkbox"/> Emergency Response Plan                                  |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units        | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> DEP7007BB Certified Progress Report                                   |   |

**Section AI.6: Signature Block**

I, the undersigned, hereby certify under penalty of law, that I am a responsible official\*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

  
\_\_\_\_\_  
Authorized Signature

*Chris Rice*  
\_\_\_\_\_  
Type or Printed Name of Signatory

*1-23-25*  
\_\_\_\_\_  
Date

*VP & GM*  
\_\_\_\_\_  
Title of Signatory

\*Responsible official as defined by 401 KAR 52:001.



Division for Air Quality  
 300 Sower Boulevard  
 Frankfort, KY 40601  
 (502) 564-3999

**DEP7007DD**

**Insignificant Activities**

- Section DD.1: Table of Insignificant Activities
- Section DD.2: Signature Block
- Section DD.3: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/10/2025

**Section DD.1: Table of Insignificant Activities**

\*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

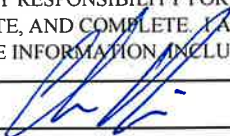
Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
1	Scrap Cutting Torches	TBD	KAR 401 Chapter 52:020 Section 6	See Appendix B
2	Alloy Bunkers	TBD	KAR 401 Chapter 52:020 Section 6	See Appendix B

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions

**Section DD.2: Signature Block**

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:



Authorized Signature

Chris Rice

Type/Print Name of Signatory

1-23-25

Date

VP & GM

Title of Signatory



Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

## DEP7007B

### Manufacturing or Processing Operations

- Section B.1: Process Information
- Section B.2: Materials and Fuel Information
- Section B.3: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI, DEP7007N,  
DEP7007V, and DEP7007GG.

- Attach a flow diagram
- Attach SDS

Source Name: Nucor Steel Brandenburg  
KY EIS (AFS) #: 21-1163-00044  
Permit #: V-20-001 R2  
Agency Interest (AI) ID: 162861  
Date: 1/9/2025

#### Section B.1: Process Information

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours (if applicable)	Hours per Batch (if applicable)
01-08A	Tundish Dump	Tundish refractory dump	01	Melt Shop	SMS	N/A	01/2020	Batch	As Needed	As Needed

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
01-08A	Tundish Dump	Refractory	2.7	ton	2.7	Refractory	2.7	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.5: Testing Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI                             </td> </tr> </table>	Additional Documentation	<input type="checkbox"/> Complete DEP7007AI																														
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Source Name:</b></td> <td><u>Nucor Steel Brandenburg</u></td> </tr> <tr> <td><b>KY EIS (AFS) #:</b></td> <td><u>21-163-00044</u></td> </tr> <tr> <td><b>Permit #:</b></td> <td><u>V-20-001-R2</u></td> </tr> <tr> <td><b>Agency Interest (AI) ID:</b></td> <td><u>162861</u></td> </tr> <tr> <td><b>Date:</b></td> <td><u>1/10/2025</u></td> </tr> </table>			<b>Source Name:</b>	<u>Nucor Steel Brandenburg</u>	<b>KY EIS (AFS) #:</b>	<u>21-163-00044</u>	<b>Permit #:</b>	<u>V-20-001-R2</u>	<b>Agency Interest (AI) ID:</b>	<u>162861</u>	<b>Date:</b>	<u>1/10/2025</u>																						
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<b>Agency Interest (AI) ID:</b>	<u>162861</u>																																	
<b>Date:</b>	<u>1/10/2025</u>																																	
<b>Section V.1: Emission and Operating Limitation(s)</b>																																		
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">Emission Unit #</th> <th style="width: 15%;">Emission Unit Description</th> <th style="width: 15%;">Applicable Regulation or Requirement</th> <th style="width: 10%;">Pollutant</th> <th style="width: 10%;">Emission Limit (if applicable)</th> <th style="width: 10%;">Voluntary Emission Limit or Exemption (if applicable)</th> <th style="width: 10%;">Operating Requirement or Limitation (if applicable)</th> <th style="width: 10%;">Method of Determining Compliance with the Emission and Operating Requirement(s)</th> </tr> </thead> <tbody> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM (filterable)</td> <td>0.024 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM10</td> <td>0.012 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM2.5</td> <td>0.004 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> </tbody> </table>			Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)	01-08A	Tundish Dump	401 KAR 51:017	PM (filterable)	0.024 lb/hr	N/A	N/A	Monitoring (see V.2)	01-08A	Tundish Dump	401 KAR 51:017	PM10	0.012 lb/hr	N/A	N/A	Monitoring (see V.2)	01-08A	Tundish Dump	401 KAR 51:017	PM2.5	0.004 lb/hr	N/A	N/A	Monitoring (see V.2)
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)																											
01-08A	Tundish Dump	401 KAR 51:017	PM (filterable)	0.024 lb/hr	N/A	N/A	Monitoring (see V.2)																											
01-08A	Tundish Dump	401 KAR 51:017	PM10	0.012 lb/hr	N/A	N/A	Monitoring (see V.2)																											
01-08A	Tundish Dump	401 KAR 51:017	PM2.5	0.004 lb/hr	N/A	N/A	Monitoring (see V.2)																											

**Section V.2: Monitoring Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	Routine maintenance on the control equipment
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	Periodic Inspections
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	Periodic Inspections

<b>Section V.3: Recordkeeping Requirements</b>
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Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Recorded	Description of Recordkeeping
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	General Recordkeeping Requirements
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	General Recordkeeping Requirements
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	General Recordkeeping Requirements

**Section V.4: Reporting Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	General Reporting Requirements
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	General Reporting Requirements
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	General Reporting Requirements

**Section V.5: Testing Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b> <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
--	--	---

<b>Source Name:</b>	<b>Nucor Steel Brandenburg</b>
<b>KY EIS (AFS) #:</b>	<b>21- 163-00044</b>
<b>Permit #:</b>	<b>V-20-001 R2</b>
<b>Agency Interest (AI) ID:</b>	<b>162861</b>
<b>Date:</b>	<b>1/10/2025</b>

<b>Section B.1: Process Information</b>										
Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
03-04	Steckel Mill Finishing Stand	Reducing of steel to produce light plates or coils	03	Hot Rolling Mill	Danieli	TBD	04/2022	Continuous	N/A	N/A

**Section B.2: Materials and Fuel Information**

*\*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.*

Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
03-04	Steckel Mill Finishing Stand	Lubricating Oils & Greases	N/A	N/A	250	Steel Strip	250	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

**DEP7007V**

**Applicable Requirements and Compliance Activities**

**Additional Documentation**

\_\_\_ Complete DEP7007AI

- \_\_\_ Section V.1: Emission and Operating Limitation(s)
- \_\_\_ Section V.2: Monitoring Requirements
- \_\_\_ Section V.3: Recordkeeping Requirements
- \_\_\_ Section V.4: Reporting Requirements
- \_\_\_ Section V.5: Testing Requirements
- \_\_\_ Section V.6: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg  
**KY EIS (AFS) #:** 21-163-00044  
**Permit #:** V-20-001 R2  
**Agency Interest (AI) ID:** 162861  
**Date:** 1/9/2025

**Section V.1: Emission and Operating Limitation(s)**

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.005 gr/dscf PM 0.005 gr/dscf PM <sub>10</sub> 0.0025 gr/dscf PM <sub>2.5</sub>	N/A	Install, operate, and maintain a high efficiency venturi scrubber designed with a 99% control efficiency of PM/PM <sub>10</sub> /PM <sub>2.5</sub>	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	VOC	5.95 ton/yr	N/A	Annual oil and grease consumption, on a 12-month rolling basis, shall not exceed 128.5 tons/yr	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	CO <sub>2e</sub>	227 ton/yr	N/A	Energy efficient design	N/A
EP 03-04	Steckel Mill Finishing Stand	401 KAR 59:010, Section 3(1)	Opacity	≤ 20%	N/A	N/A	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 59:010, Section 3(1)	PM	PM Process Weight Rate Emission Limit	N/A	N/A	Monitoring (See V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Operational Status	Monitor the pressure drop across the scrubber and the scrubber liquid flow rate.
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	Oil and grease	Oil and grease usage monitored monthly
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General Monitoring Requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	Visible emissions	Weekly visible emission checks during operation of the unit
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	Steel Processed	Calculate the process weight rate and the hourly emissions of PM, as a monthly average, based on the method specified in appendix A to 401 KAR 59:010 for comparison to the standard.

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Operational Status	Record the pressure drop across the scrubber and the scrubber liquid flow rate.
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	Oil and grease	Oil and grease usage recorded monthly
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General Recordkeeping Requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	Visible emissions	Weekly visible emission checks during operation of the unit
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	Steel Processed	Calculate the process weight rate and the hourly emissions of PM, as a monthly average, based on the method specified in appendix A to 401 KAR 59:010 for comparison to the standard.

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	N/A	General reporting requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2e</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b>  <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.  <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
--	--	---

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/9/2025

**Section B.1: Process Information**

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
04-01	Shot Blaster	Removing surface deposits on light steel plates and preparing light steel plates for further treatment.	04	Continuous Heat Treat	SMS	N/A	04/2022	Continuous	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit <i>(tons/hr)</i>	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				<i>(Specify Units/hr)</i>				<i>(Specify Units/hr)</i>			<i>(Specify Units)</i>		<i>(Specify Units)</i>		
04-01	Shot Blaster	Steel Plate	N/A	N/A	50	Steel Plate	50	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<b>Section B.3: Notes, Comments, and Explanations</b>

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

## DEP7007V

### Applicable Requirements and Compliance Activities

- Section V.1: Emission and Operating Limitation(s)
- Section V.2: Monitoring Requirements
- Section V.3: Recordkeeping Requirements
- Section V.4: Reporting Requirements
- Section V.5: Testing Requirements
- Section V.6: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21-163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/9/2025

#### Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EP 04-01	Shot Blaster	401 KAR 51:017	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.003 gr/dscf	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	General reporting requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007B</h2> <h3 style="margin: 0;">Manufacturing or Processing Operations</h3> <p style="margin: 5px 0 0 20px;">___ Section B.1: Process Information</p> <p style="margin: 5px 0 0 20px;">___ Section B.2: Materials and Fuel Information</p> <p style="margin: 5px 0 0 20px;">___ Section B.3: Notes, Comments, and Explanations</p>	<h4 style="margin: 0;">Additional Documentation</h4> <p style="margin: 5px 0 0 0;">___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.</p> <p style="margin: 5px 0 0 0;">___ Attach a flow diagram</p> <p style="margin: 5px 0 0 0;">___ Attach SDS</p>
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**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001-R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/10/2025

<b>Section B.1: Process Information</b>										
Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
06-01	EAF Flux and Carbon Handling System	Dump Station with enclosed conveyor to transfer lime	06	Lime, Carbon, Alloy Handling Systems	TBD	TBD	04/2022	Batch	N/A	N/A
06-03	LMF Flux and Carbon Handling System	Dump Station with enclosed conveyor to transfer carbon	07	Lime, Carbon, Alloy Handling Systems	TBD	TBD	04/2022	Batch	N/A	N/A
06-05	LMF Alloy Handling System	Dump Station with enclosed conveyor to transfer alloys	08	Lime, Carbon, Alloy Handling Systems	TBD	TBD	04/2022	Batch	N/A	N/A

## Section B.2: Materials and Fuel Information

*\*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.*

Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
06-01	EAF Flux and Carbon Handling System	Lime	120	ton/hr	120	Lime and Carbon	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A
06-03	LMF Flux and Carbon Handling System	Carbon	120	ton/hr	120	Lime and Carbon	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A
06-05	LMF Alloy Handling System	Alloy	120	ton/hr	120	Alloys	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A



<p style="text-align: center;">Division for Air Quality</p> <p style="text-align: center;">300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999</p>	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p>___ Section V.1: Emission and Operating Limitation(s)</p> <p>___ Section V.2: Monitoring Requirements</p> <p>___ Section V.3: Recordkeeping Requirements</p> <p>___ Section V.4: Reporting Requirements</p> <p>___ Section V.5: Testing Requirements</p> <p>___ Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"><b>Additional Documentation</b></td> </tr> <tr> <td style="padding: 5px;">___ Complete DEP7007AI</td> </tr> </table>	<b>Additional Documentation</b>	___ Complete DEP7007AI			
<b>Additional Documentation</b>							
___ Complete DEP7007AI							
<p><b>Source Name:</b> <u>Nucor Steel Brandenburg</u></p> <p><b>KY EIS (AFS) #:</b> <u>21- 163-00044</u></p> <p><b>Permit #:</b> <u>V-20-001-R2</u></p> <p><b>Agency Interest (AI) ID:</b> <u>162861</u></p> <p><b>Date:</b> <u>1/15/2025</u></p>							
<p><b>Section V.1: Emission and Operating Limitation(s)</b></p>							
<p style="text-align: center;"><b>Emission Unit #</b></p>	<p style="text-align: center;"><b>Emission Unit Description</b></p>	<p style="text-align: center;"><b>Applicable Regulation or Requirement</b></p>	<p style="text-align: center;"><b>Pollutant</b></p>	<p style="text-align: center;"><b>Emission Limit (if applicable)</b></p>	<p style="text-align: center;"><b>Voluntary Emission Limit or Exemption (if applicable)</b></p>	<p style="text-align: center;"><b>Operating Requirement or Limitation (if applicable)</b></p>	<p style="text-align: center;"><b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b></p>
06-01	EAF Flux & Carbon Handling system	401 KAR 51:017	PM	0.28 lb/hr 0.13 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-01	EAF Flux & Carbon Handling system	401 KAR 51:017	PM10	0.13 lb/hr 0.06 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	403 KAR 51:017	PM2.5	0.02 lb/hr 0.009 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	401 KAR 59:010, Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit
06-01	EAF Flux & Carbon Handling system	401 KAR 63:010 Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-01	EAF Flux & Carbon Handling system	401 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A
06-03	LMF Flux and Carbon Handling System	401 KAR 51:017	PM	0.28 lb/hr 0.033 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	EAF Flux & Carbon Handling system	403 KAR 51:017	PM10	0.13 lb/hr 0.015 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	403 KAR 51:017	PM2.5	0.02 lb/hr 0.002 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	401 KAR 59:010, Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-03	LMF Flux and Carbon Handling System	401 KAR 63:010 Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A
06-03	LMF Flux and Carbon Handling System	402 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A
06-05	LMF Alloy Handling System	401 KAR 51:017	PM	0.027 lb/hr 0.07 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	402 KAR 51:017	PM10	0.13 lb/hr 0.033 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	403 KAR 51:017	PM2.5	0.02 lb/hr 0.005 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
06-05	LMF Alloy Handling System	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	401 KAR 59:010 Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit
06-05	LMF Alloy Handling System	401 KAR 59:010, Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A
06-05	LMF Alloy Handling System	401 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
06-01	EAF Flux & Carbon Handling System	PM2.5	401 KAR 51:017	N/A	General Monitoring Requirements
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 51:017	N/A	General Monitoring Requirements
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	PM	401 KAR 51:017	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
06-01	EAF Flux & Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements
06-03	LMF Flux and Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
06-01	EAF Flux & Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A
06-05	LMF Alloy Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b> <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
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<b>Source Name:</b>	<b>Nucor Steel Brandenburg</b>
<b>KY EIS (AFS) #:</b>	<b>21-163-00044</b>
<b>Permit #:</b>	<b>V-20-001 R2</b>
<b>Agency Interest (AI) ID:</b>	<b>162861</b>
<b>Date:</b>	<b>1/9/2025</b>

**Section B.1: Process Information**

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
12-04	Slag Plant Oxy Fuel-Fired Torches	Required to cut revert scrap for recycle to EAF	12	Slag Processing	N/A	N/A	12/2021	Batch	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
12-04	Slag Plant Oxy Fuel-Fired Torches	Metal Scrap	12	tons	12	Metal Slag	12	tons	Natural Gas	9.90E-03	MMscf/hr	86.7	MMscf/yr	N/A	N/A



## DEP7007V

### Applicable Requirements and Compliance Activities

**Additional Documentation**

\_\_\_ Complete DEP7007AI

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

- \_\_\_ Section V.1: Emission and Operating Limitation(s)
- \_\_\_ Section V.2: Monitoring Requirements
- \_\_\_ Section V.3: Recordkeeping Requirements
- \_\_\_ Section V.4: Reporting Requirements
- \_\_\_ Section V.5: Testing Requirements
- \_\_\_ Section V.6: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21-163-00044

**Permit #:** V-20-001-R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/15/2025

**Section V.1: Emission and Operating Limitation(s)**

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM (filterable)	1.95 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM10	7.65 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)

12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM2.5	7.65 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	CO	84 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	NOx	70 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	VOC	5.5 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	SO2	0.6 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>
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Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	Fuel usage	Monitoring of natural gas

### Section V.3: Recordkeeping Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	Fuel usage	Record natural gas usage

### Section V.4: Reporting Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	N/A	General Reporting Requirements

### Section V.5: Testing Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.

<b>Section V.6: Notes, Comments, and Explanations</b>

# DEP7007K

## Surface Coating or Printing Operations

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

- Section K.1: Process Information
- Section K.2: Coating Operations
- Section K.3: Other Operations
- Section K.4: Coatings/Printing Materials as Applied
- Section K.5: HAP-containing Coatings/Printing Materials
- Section K.6: Notes, Comments, and Explanations

**Additional Documentation**

Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

Attach SDS or Technical Sheets for all Coating/Printing Materials

Attach a flow diagram

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001-R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/15/2025

**Section K.1: Process Information**

**Emission Unit #:** 18

**Emission Unit Name:** Blast and Prime

**Coating/Printing Line Name:** Blast and Prime Line

**Proposed/Actual Date of Construction: (MM/YYYY)** Apr-22

**List Applicable Regulations:**

401 KAR 51:017; 401 KAR 59:010; 401 KAR 59:225

**Describe Overall Process:**

EP 18-01 - Pre heater (2 burners @ 330 Btu/hr)  
EP 18-02 - One (1) Shot Blaster  
EP 18-03 - Plate Painting Operations  
EP 18-04 - RTO  
EP 18-05 - Paint Dryer (95 Btu/hr)

**Describe Coatings/Printing Materials:**

Commercially purchased paint material used in the prime coat booth

**Identify the Material that is Coated/Printed:**

- Metal
- Vinyl
- Plastics
- Wood
- Foil
- Paper
- Other Substrate

**Provide detailed description of material coated/printed:**

Steel Plate

**Provide approximate dimensions and range of sizes of parts being coated or printed:**

Minimum Height: 3/16"  
 Maximum Height: 6"  
 Maximum Width: 168"  
 Minimum Length: 10 ft  
 Maximum Length: 85 ft

**Identify the Type of Operation:**

- Continuous
- Batch
- Other:

**Describe Surface Preparation/Pretreatment Steps:**

Surface preparation in the Shot Blaster followed by preheating

**For Coating Operations:**

- Spray
- Flow
- Dip tank
- Electrodeposition
- Brush
- Powder
- Roller Coat
- Other:

**For Printing Operations:**

*(Select all that apply)*

- Web
- Rotogravure
- Heatset
- Lithographic
- Other:
- Sheetfed
- Letterpress
- Non-heatset
- Flexographic

**Describe Final Product:**

Primed steel sheet for various uses

**Check the category that most closely describes this unit:**

- Large Appliance Coating
- Auto or Light-Duty Truck Coating
- Metal Furniture Coating
- Metal Coil Coating
- Beverage Can Coating
- Miscellaneous Metal Parts Coating
- Magnet Wire Insulation Coating
- Flat Wood Panel Coating
- Fabric, Vinyl, or Paper Coating
- Boat Manufacturing/ Ship Repair
- Pressure Sensitive Tape and Label Coating
- Magnet Tape Coating
- Publication Rotogravure Printing
- Coating of Plastic Parts for Business Machines
- Flexible Vinyl and Urethane Coating and Printing
- Graphic Arts using Rotogravure and Flexographic Printing
- Other: Steel plate protective coating

**Section K.2: Coating Operations**

**K.2A: For Spray Coating**

Gun/Booth ID	Describe Function	Type	Mode	Maximum Design Application Rate <i>(gal/hr or lb/hr)</i>	Describe how maximum rate was determined
Primer Booth	Robotic applicators - Count TBD	<input type="checkbox"/> Conventional Air Gun <input checked="" type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic	42.3 gal/hr	<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input checked="" type="checkbox"/> Estimation
		<input type="checkbox"/> Conventional Air Gun <input type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input type="checkbox"/> Automatic		<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
		<input type="checkbox"/> Conventional Air Gun <input type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input type="checkbox"/> Automatic		<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation

If spray guns are used simultaneously, describe:

TBD

**K.2B: For Brush Coating**

Describe Function:

Maximum Coating Application Rate:  
*(gal/hr)*

**K.2C: For Roller Coating**

Roller Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr)</i>	Describe how maximum rate was determined
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation

**K.2D: For Powder Coating**

Powder Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

If powder coating material is recycled, describe:

**K.2E: For Flow Coating**

Flow Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

**K.2F: For Dip Tank/Electrodeposition Coating**

Tank ID	Describe Function	Maximum Make-up Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

**Section K.3: Other Operations**

**K.3A: For Finishing**

**Describe Finishing Processes:**  
Complete Form DEP7007B as applicable

**Paint Dryer**

**K.3B: For Curing/Drying**

Describe Curing/Drying Processes:	Description	Rated Capacity (MMBtu/hr)	Fuel	Control Device/Stack ID
Paint Dryer	Dry-Off Oven	0.000095	Natural Gas	RTO

**K.3C: For Purge**

Type: \_\_\_\_\_ Purge Solvent \_\_\_\_\_

Daily Usage: \_\_\_\_\_ 5 \_\_\_\_\_ gal/day

**K.3D: For Clean-up**

Type:  Manual  Automatic

Daily Usage: \_\_\_\_\_ hrs/day

Operating Hours: \_\_\_\_\_

**K.3E: For Other Equipment**

**Describe Processes:**



### Section K.5: Hazardous Air Pollutant-containing Coatings/Printing Materials

List each individual hazardous air pollutant (HAP) contained in each material.

<b>Trade Name of Material</b>	<b>HAP Name</b>	<b>HAP CAS #</b>	<b>Identify Solid (S) or Volatile (V)</b>	<b>HAP % by weight</b>	<b>HAP Emission Factor (lb/SCC)</b>	<b>Control Device/ Stack ID</b>
INTERPLATE 937 GREY	Xylene	1330-20-7	V	3.12%	0.004	RTO
INTERPLATE 937 GREY	Ethyl Benzene	100-41-4	V	3.12%	0.004	RTO



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.5: Testing Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 5px;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI                 </td> </tr> </table>	Additional Documentation	<input type="checkbox"/> Complete DEP7007AI			
Additional Documentation							
<input type="checkbox"/> Complete DEP7007AI							
<p><b>Source Name:</b> <u>Nucor Steel Brandenburg</u></p> <p><b>KY EIS (AFS) #:</b> <u>21- 163-00044</u></p> <p><b>Permit #:</b> <u>V-20-001-R2</u></p> <p><b>Agency Interest (AI) ID:</b> <u>162861</u></p> <p><b>Date:</b> <u>1/15/2025</u></p>							
<h3 style="margin: 0;">Section V.1: Emission and Operating Limitation(s)</h3>							
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
18-02	Shot Blaster	401 KAR 51:017	PM/PM10/ PM2.5	0.003 gr/dscf	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)
18-03	Plate Painting Operations	401 KAR 59:225; 401 KAR 51:017	VOC	Emit no more than 15% by weight of the VOCs net input into the affected facility; 98% VOC control	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
18-03	Plate Painting Operations	401 KAR 51:017	PM/PM10/ PM2.5	99% PM control	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment
18-03	Plate Paint Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Monitor the RTO combustion chamber temperature whenever the painting system is in operation.

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Record the RTO combustion chamber temperature.

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	General Reporting Requirements
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Report exceedances and deviations

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Efficiency	RTO Control Efficiency

<b>Section V.6: Notes, Comments, and Explanations</b>

## DEP7007N

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

### Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI

**Source Name:** Nucor Steel Brandenburg  
**KY EIS (AFS) #:** 21- 1163-00044  
**Permit #:** V-20-001 R2  
**Agency Interest (AI) ID:** 162861  
**Date:** 1/15/2025

### N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity <i>(SCC Units/hour)</i>	Pollutant	Uncontrolled Emission Factor <i>(lb/SCC Units)</i>	Emission Factor Source <i>(e.g. AP-42, Stack Test, Mass Balance)</i>	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU01	Melt Shop	EP 01-08A	Tundish Preparation - Tundish Dump Station	N/A	N/A	N/A	2.7	Filterable PM	8.80E-03	AP-42	N/A	N/A	0.02	N/A	0.10	N/A
		SCC:	30300999	tons of refractor				PM10	4.30E-03	AP-42	N/A	N/A	0.01	N/A	0.05	N/A
								PM2.5	1.60E-03	AP-42	N/A	N/A	0.004	N/A	0.02	N/A
EU03	Hot Rolling Mill	EP 03-04A	Steckel Mill Finishing Stand - Scrubber	Steckel Mill Wet Scrubber	C0304	S0304	250	Filterable PM	6.88E-01	Scrubber design specification	95%	99%	171.88	1.72	752.85	7.53
		SCC:	30300931	tons of steel produced				PM10	6.88E-01	Engineering eval. at similar Nucor facilities	95%	99%	171.88	1.72	752.85	7.53
								PM2.5	3.44E-01		95%	99%	85.94	0.86	376.42	3.76
								VOC	6.46E-03		N/A	N/A	1.62	N/A	5.66	N/A
								CO2e	2.46E-01		N/A	N/A	61.60	N/A	215.59	N/A
								Total HAP	1.22E-03		N/A	N/A	0.30	N/A	1.07	N/A
											N/A	N/A	2.00	N/A	8.76	N/A
EU03	Hot Rolling Mill	EP 03-04B	Steckel Mill Finishing Stand - RMMV	N/A	N/A	RMMV	250	Filterable PM	8.00E-03	Scrubber design specification	N/A	N/A	2.00	N/A	8.76	N/A
		SCC:	30300931	tons of steel produced				PM10	6.27E-03	Engineering eval. at similar Nucor facilities	N/A	N/A	1.57	N/A	6.87	N/A
								PM2.5	2.18E-03		N/A	N/A	0.55	N/A	2.39	N/A
								VOC	3.40E-04		N/A	N/A	0.09	N/A	0.30	N/A
								CO2e	1.30E-02		N/A	N/A	3.24	N/A	11.35	N/A
						Total HAP	6.41E-05	N/A	N/A		0.02	N/A	0.06	N/A		

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity <i>(SCC Units/hour)</i>	Pollutant	Uncontrolled Emission Factor <i>(lb/SCC Units)</i>	Emission Factor Source <i>(e.g. AP-42, Stack Test, Mass Balance)</i>	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU04	Continuous Heat Treat Line	EP 04-01	Shot Blaster	Shot Blaster Dust Collector	C0401	S0401	50	Filterable PM	1.71E+00	SDS & AP-42	100%	99%	85.28	0.85	373.54	3.72
				tons of steel processed				PM10	1.71E+00	Design Grain Loading	100%	99%	85.28	0.85	373.5	3.72
								PM2.5	1.71E+00	Design Grain Loading	100%	99%	85.28	0.85	373.5	3.72
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-01A	EAF Flux & Carbon Handling - Baghouse	EAF Flux & Carbon Handling Baghouse	C0601	S0601	120	Filterable PM	5.37E-01	AP-42	98%	100%	64.42	0.06	29.53	0.03
				tons of lime processed				PM10	2.54E-01	AP-42	98%	100%	30.47	0.03	13.97	0.01
								PM2.5	3.84E-02	AP-42	98%	100%	4.61	0.005	2.11	0.002
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-01B	EAF Flux & Carbon Handling - Uncaptured	N/A	N/A	EP0601F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.10	N/A
				tons of lime processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.05	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	0.01	N/A
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-03A	LMF Flux & Carbon Handling - Baghouse	LMF Flux & Carbon Handling and Alloy Dump Station Baghouse	C0605	S0605	120	Filterable PM	5.37E-01	AP-42	98%	100%	64.42	0.06	7.52	0.01
				tons of carbon processed				PM10	2.54E-01	AP-42	98%	100%	30.47	0.03	3.55	3.55E-03
								PM2.5	3.84E-02	AP-42	98%	100%	4.61	4.61E-03	0.54	5.38E-04
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-03B	LMF Flux & Carbon Handling - Uncaptured	N/A	N/A	EP0603F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.03	N/A
				tons of carbon processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.01	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	1.80E-03	N/A
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-05A	LMF Alloy Handling - Baghouse	LMF Flux & Carbon Handling and Alloy Dump Station Baghouse	C0605	S0605	120	Filterable PM	4.47E-01	AP-42	98%	100%	53.65	0.05	13.86	0.01
				tons of alloy processed				PM10	2.11E-01	AP-42	98%	100%	25.37	0.03	6.56	0.01
								PM2.5	3.20E-02	AP-42	98%	100%	3.84	3.84E-03	0.99	9.93E-04
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-05B	LMF Alloy Handling - Uncaptured	N/A	N/A	EP0605F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.06	N/A
				tons of alloy processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.03	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	3.99E-03	N/A

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU12	Slag Processing	EP 12-04A	Slag Plant Oxy Fuel-Fired Torches	Slag Plant Torch - Baghouse	C1204	S1204	12	Filterable PM	4.19E-02	Filterable PM/PM10/PM2.5 emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.	95%	100%	0.50	0.02	2.20	0.08
		SCC: 30300929	tons of steel processed					PM10	4.66E-02		95%	100%	0.56	0.08	2.45	0.33
								PM2.5	4.66E-02		95%	100%	0.56	0.08	2.45	0.33
								NOX	8.25E-02	AP-42	N/A	N/A	0.99	N/A	4.34	N/A
								CO	6.93E-02	AP-42	N/A	N/A	0.83	N/A	3.64	N/A
								SO2	4.95E-04	AP-42	N/A	N/A	0.01	N/A	0.03	N/A
								Lead	4.17E-07	AP-42	N/A	N/A	0.00	N/A	0.00	N/A
								VOC	4.54E-03	AP-42	N/A	N/A	0.05	N/A	0.24	N/A
								CO2e	9.96E+01	AP-42	N/A	N/A	1195.06	N/A	5234.36	N/A
								Total HAP	1.56E-03	SDS & AP-42	N/A	N/A	0.02	N/A	0.08	N/A
EU12	Slag Processing	EP 12-04B	Slag Plant Oxy Fuel-Fired Torches	Slag Plant Torch - Uncaptured	N/A	EP 12-04F	12	Filterable PM	2.23E-03	Filterable PM/PM10/PM2.5 emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.	N/A	N/A	0.03	N/A	0.12	N/A
		SCC: 30300929	tons of steel processed					PM10	2.23E-03		N/A	N/A	0.03	N/A	0.12	N/A
								PM2.5	2.23E-03		N/A	N/A	0.03	N/A	0.12	N/A
EU18	Blast & Paint Line	EP 18-02	Shot Blaster	Shot Blaster	C1802	S1802	400	Filterable PM	7.23E-02	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35
		SCC: 30300999	tons of steel processed					PM10	7.23E-02	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35
								PM2.5	7.23E-02	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35
EU18	Blast & Paint Line	EP 18-03	Plate Painting Operations	Plate Painting	C1803A C1803B	S1803	50.732	Filterable PM	1.00E+00	SDS	100%	99%	50.76	0.51	222.31	2.22
		SCC: 30300936	tons of material coated					PM10	1.00E+00	SDS	100%	99%	50.76	0.51	222.31	2.22
								PM2.5	1.00E+00	SDS	100%	99%	50.76	0.51	222.31	2.22
								VOC	5.41E+00	SDS	100%	98%	274.46	5.49	1202	24.04
								Total HAPs	1.15E+00	SDS	100%	98%	58.10	1.16	254.48	5.09

## Section N.2: Stack Information

### UTM Zone:

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
S0304A	EP 03-04A - Steckel Mill Finishing Stand - Scrubber	4	85.00	462.0	575599.56	4206521.19	44,000	120.00	58.36
S0401	EP 04-01 - Shot Blaster	3.5	100.00	462.0	575717.08	4206433.40	34,375	90	59.55
S0601A	EP 06-01A - EAF Flux & Carbon Handling - Baghouse	0.7	50.00	462.0	575222.63	4206477.52	1,200	ambient	57.30
S0605A	EP 06-05A - LMF Alloy Handling - Baghouse	3.3	144.35	462.0	575210.89	4206455.99	1,033	ambient	2.02
S1204	EP 12-04 - Slag Plant Oxy Fuel- Fired Torches - Baghouse	4.7	40.00	459.0	575085.49	4206830.23	60,000	140.00	58.47
S1802	EP 18-02 - B&P Line Shot Blaster	2.0	70.00	462.0	576128.99	4206665.39	12,500	90.00	66.31
S1803	EP 18-03 - B&P Line Painting Operations/RTO	2.5	70.00	462.0	576108.24	4206674.22	13,621	120.00	46.25

### Section N.3: Fugitive Information

#### UTM Zone:

Emission Unit #	Emission Unit Name	Process ID	Area Physical Data		Area UTM Coordinates		Area Release Data	
			Length of the X Side (ft)	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature (°F)	Release Height (ft)
EU06	EAF Flux & Carbon Dump Fugitive Emissions	EP 06-01	3.49	6.98	575217.65	4206466.21	ambient	15.00
EU06	LMF Flux & Carbon Dump Fugitive Emissions	EP 06-03	3.49	6.98	575216.33	4206460.25	ambient	15.00
EU06	LMF Alloy Dump Fugitive Emissions	EP 06-05	3.49	6.98	575232.64	4206497.83	ambient	15.00
EU12	Scrap Cutting	EP 12-04	2.33	7.00	575095.50	4206830.23	ambient	9.84
EU12	Slag Dump/Ball Drop/Tundish Dump	EP 12-01 EP 01-08A	93.34	93.34	575106.77	4206757.63	ambient	8.00
EU01 EU03 EU15	Primary Caster Torch Cut Off Secondary Caster Torch Cut Off Roughing Mill Stand Steckel Mill Finishing Stand Coil Sample Plasma Cutter Coil Tagger Rolling Mill Oxy-Fuel Plate Cutting Torch Rolling Mill Oxy-Fuel Coil Cutting Torch Ingot Grinding Ingot Grinding Oxy-Fuel Cutting Torch	EP 01-06 EP 03-03 EP 03-04 EP 03-06 EP 15-01 EP 01-13 EP 01-14	BOUYLINE	BOUYLINE	575399.889 575736.639	4206605.666 4206530.866	ambient	113.00





APPENDIX B      POTENTIAL TO EMIT CALCULATIONS

## Scrap Cutting Torches

## Nucor Steel Brandenburg Brandenburg, KY

### Inputs

Description	Value	Units	Notes
Annual Operating hours	8,760	hrs	
Maximum Hourly Processing Rate	21	ton/hr	
Maximum Annual Processing Rate	100,000	ton/yr	
LPG Consumption per Torch	160	scf/hr	1
Number of Torches	8	-	
Total LPG Consumption	1,280	scf/hr	2
Total LPG Consumption	0.00128	MMscf/hr	
Total MMBtu Consumption	3.22	MMBtu/hr	3

Notes:

[1] Torch tip specification of 80 to 160 scf/hr propane consumption; conservatively assumes 160 scf/hr.

[2] Conservatively assumes 8 torches continuously operate.

[3] Heat content of propane is 2,516 Btu/scf per U.S. Energy Information Administration, Natural Gas Monthly.

### Total Emission Summary

Pollutant	Hourly Emission Rate	Total Emission Rate
	(lb/hr)	(tons/yr)
Filterable PM	0.864	3.79
PM <sub>10</sub>	0.882	3.86
PM <sub>2.5</sub>	0.882	3.86
NO <sub>x</sub>	0.458	2.00
CO	0.264	1.16
SO <sub>2</sub>	0.053	0.23
Total HAPs	0.096	0.42
CO <sub>2</sub> e	450	1,969

### Emission Calculation Equations

Emission calculations based fume generation rate and metal HAP content of steel:

$$\frac{0.81 \text{ g PM}}{\text{min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 8 \text{ torches} \times \frac{1 \text{ lb}}{453.6 \text{ g}} = \frac{0.857 \text{ lb PM}}{1 \text{ hr}}$$

$$\frac{0.81 \text{ g PM}}{\text{min}} \times \text{metal HAP wt\%} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 8 \text{ torches} \times \frac{1 \text{ lb}}{453.6 \text{ g}} = \frac{\text{lb metal HAP}}{\text{hr}}$$

$$\frac{\text{lb pollutant}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{\text{ton}}{2,000 \text{ lb}} = \frac{\text{ton pollutant}}{\text{year}}$$

### Emission Calculations - PM and Metal HAPs

Pollutant	Metal HAP max wt% in Nucor Steel	Emission Factor	Hourly Emission Rate	Annual Emission Rate	Notes
	(wt%)	(g/min)	(lb/hr)	(ton/yr)	
Filterable PM	-	0.81	0.857	3.754	4
PM <sub>10</sub>	-	0.81	0.857	3.754	4
PM <sub>2.5</sub>	-	0.81	0.857	3.754	4
Chromium	5.50%	0.04	0.047	0.206	5,6
Manganese	2.0%	0.02	0.017	0.075	5,6
Nickel	3.65%	0.03	0.031	0.137	5,6
Total HAPs	-	-	0.096	0.419	-

Notes:

[4] Filterable PM/PM<sub>10</sub>/PM<sub>2.5</sub> emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.

[5] HAP emission rates based on the HAP content for Nucor Steel, per SDS revised 12/22/2023.

[6] Maximum weight percent of metal in Nucor Steel multiplied by Total PM emission factor.

Emission Calculation Equations

Emission calculations based on lb/million scf of natural gas emission factors

$$\frac{lb \text{ pollutant}}{10^3 \text{ gal}} \times \frac{10^3 \text{ gal propane}}{91.5 \text{ MMBtu}} \times \frac{\text{million Btu}}{hr} = \frac{lb \text{ pollutant}}{hr}$$

$$\frac{lb \text{ pollutant}}{hr} \times \frac{8,760 \text{ hours}}{\text{year}} \times \frac{\text{ton}}{2,000 \text{ lbs}} = \frac{\text{ton pollutant}}{\text{year}}$$

**Emission Calculations - LPG Combustion**

Pollutant	Emission Factor		Hourly Emission Rate	Annual Emission Rate	Notes
	(lb/10 <sup>3</sup> gal)	(lb/MMBtu)*	(lb/hr)	(ton/yr)	
Filterable PM	0.2	0.002	0.007	0.031	7
PM <sub>10</sub>	0.7	0.008	0.025	0.108	7
PM <sub>2.5</sub>	0.7	0.008	0.025	0.108	7
NO <sub>x</sub>	13	0.142	0.458	2.004	7
CO	7.5	0.082	0.264	1.156	7
SO <sub>2</sub>	1.5	0.016	0.053	0.231	8
VOC	0.8	0.009	0.028	0.123	7
CO <sub>2</sub>	12,500	136.6	440	1,927	7
N <sub>2</sub> O	0.9	0.010	0.032	0.139	7
CH <sub>4</sub>	0.2	0.002	0.007	0.031	7
CO <sub>2</sub> e	-	-	450	1,969	9

\* Heat content of propane is 91.5 MMBtu/10<sup>3</sup> gallon for propane per AP-42 Chapter 1.5.

Notes:

[7] Emission factors from AP-42 Section 1.5 LPG Combustion Table 1.5-1; assume Total PM=PM<sub>10</sub>=PM<sub>2.5</sub>.

[8] Emission factors from AP-42 Table 1.5-1 based on sulfur content for propane of 15 grains per 100 scf.

[9] Global Warming Potentials from 40 CFR 98 Subpart A Table A-1.

## Alloy Bunkers

Alloys are dumped by trucks.

## Nucor Steel Brandenburg Brandenburg, KY

### Inputs

Description	Value	Units	Notes
Annual Operating Hours	8,760	hrs/yr	
Raw material Dumped Maximum Hourly	120	tons/hr	1
Raw material Dumped Annually	62,000	tons/yr	1
Average Wind Speed	1.3	mph	2
Material Moisture Content	0.20	%	3
Dump Station Capture Efficiency	75%	%	4

### Notes:

1. Site operational data.
2. Indoor wind speed based on lower bound of range in AP-42 Section 13.2.4.
3. Moisture content for limestone per AP-42 Table 13.2.4-1.
4. Capture efficiency for 3-sided bunker and the surrounding building

### Emissions Summary

Source Description	Pollutant	Average Emission Rate	Annual Emission Rate
		(lb/hr)	(tpy)
Total Alloy Bunkers Fugitive Emissions	Filterable PM	0.31	0.08
	PM <sub>10</sub>	0.15	0.04
	PM <sub>2.5</sub>	0.02	0.01

### Notes:

Per AP-42 (Table 13.2.2-2), PM<sub>30</sub> is assumed equivalent to total suspended particle matter (Filterable PM).

Calculation methodology derived from Section 13.2.4 "Aggregate Handling and Storage Piles," AP-42 (11/06).

**Emission Factor (lb PM/ ton handled)**

$$\text{Emission factor (lb / ton)} = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

where

U = Mean wind speed (mph) for the area <sup>(5)</sup>

M = Material moisture content (%) <sup>(6)</sup>

k = Particle size multiplier <sup>(7)</sup>

Aerodynamic Particle Size Multiplier (k)	
< 30 micrometers	0.74
< 15 micrometers	0.48
< 10 micrometers	0.35
< 5 micrometers	0.20
< 2.5 micrometers	0.053

Notes:

5. Wind speed based on average wind speed for Louisville KY per AP-42 Table 7.1-7.

6. From AP-42 (11/06), Section 13.2.4.2, Table 13.2.4-1

7. From AP-42 (11/06), Section 13.2.4.3

### Particulate Uncaptured Emissions from Dump Station

Transfer Location	Hourly Throughput	Annual Throughput	Emission Factor	Hourly Emissions <sup>(8)</sup>	Annual Emissions <sup>(9)</sup>
	(tons/hr)	(tons/yr)	(lb/ton)	(lb/hr)	(tpy)
PM	120	62,000	0.01032	0.31	0.08
PM <sub>10</sub>	120	62,000	0.00488	0.15	0.04
PM <sub>2.5</sub>	120	62,000	0.00074	0.02	0.01

Notes:

8. Hourly Emissions (ton/hr) = Material Throughput (tons/hr) \* EF (lb PM/ton) \* (1 - Partial Closure Capture Efficiency)

9. Annual Emissions (ton/yr) = Material Throughput (tons/yr) \* EF (lb PM/ton) \* (1 - Partial Closure Capture Efficiency) / 2000 lb/ton



APPENDIX C      CAM PLANS

## Emission Point ID EP 03-04 – Steckel Mill Finishing Stand Wet Scrubber

### I. Background

#### A. Emission Unit

Description: the Steckel Mill (EP 03-04) is a source of PM emissions as a result of oil and grease consumption and PM emissions generated from the rolling and descaling operations of the Steckel Mill. The Steckel Mill is equipped with an air pollution control system to reduce the potential PM emissions from the rolling and descaling operations. This system includes a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

Identification: Control Device ID C0304

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.005 gr/dscf; 3.72 lb/hr; 16.28 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.005 gr/dscf; 3.28 lb/hr; 14.36 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0025 gr/dscf; 1.40 lb/hr; 6.13 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Continuous monitoring of the differential pressure across the scrubber;
- ii. Continuous monitoring of the scrubber liquid flow rate;
- iii. Weekly qualitative visual observation of the opacity of emissions; and
- iv. Monthly operational status inspection of the equipment.

#### A. Control Technology

The Steckel Mill (EP 03-04) will a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

## II. Monitoring Approach

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

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Pressure Drop	Liquid Flow Rate	Opacity	Inspection Program
	Continuous pressure drop across the scrubber	Continuous flow meter to monitor scrubber liquid flow rate	Qualitative visual observation	Visual inspection of the Steckel Mill (EP 03-04), capture system, and Wet Scrubber (C0304)
II. Indicator Range	An excursion is defined as a pressure differential outside the range recommended by the manufacturer.	An excursion is defined as a flow rate outside the range recommended by the manufacturer.	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 monthly inspection.
III. Performance Criteria				
A. Data Representativeness	Pressure differential will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Liquid Flow Rate will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the scrubber discharge stack.	Inspections are performed on the Steckel Mill (EP 03-04), capture system, and the Wet Scrubber (C0304).
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Periodic calibration of pressure gauges	Periodic calibration of flow meters	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Continuous (recorded once every 15 minutes)	Continuous (recorded once every 15 minutes)	Weekly	Monthly
IV. Data Collection Procedures	Pressure drop for each compartment is logged electronically, continuously (once every 15 minutes)	Scrubber liquid flow rate is logged electronically, continuously (once every 15 minutes)	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	2 hours	2 hours	NA	NA

### III. Rationale and Justification of Plan

The operation of the Steckel Mill Finishing Stand Wet Scrubber system within the ranges specified above plus component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter limits.

## Emission Point ID EP 03-04 – Shot Blaster Baghouse

### I. Background

#### A. Emission Unit

Description: 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 quench 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 and retain rebounding abrasive. Fresh air enters the cabinet through the work openings and is exhausted through a ventilating hood to the baghouse (C0401).

Identification: Control Device ID C0401

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily pressure drop across the baghouses;
- ii. Weekly qualitative visual observation of the opacity of emissions; and
- iii. Monthly operational status inspection of the equipment.

#### C. Control Technology

Fresh air enters the shot blast unit (EP 04-01) through the openings where the plates enter and exit the unit and is exhausted through a ventilating hood to the shot blaster baghouse (C0401).

## II. Monitoring Approach

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

Table Monitoring Approach

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>	<b>Indicator No. 3</b>
I. Indicator Measurement Approach	Pressure Drop	Opacity	Inspection Program
	Daily pressure drop across the baghouse	Qualitative visual observation	Visual inspection of Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
II. Indicator Range	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer.	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 monthly inspection.
III. Performance Criteria			
A. Data Representativeness	Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the baghouse discharge stack.	Inspections are performed on the Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Periodic calibration of pressure gauges	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Daily	Weekly	Monthly
IV. Data Collection Procedures	Daily pressure drop across the baghouse logged electronically or in hardcopy format	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA

### III. Rationale and Justification of Plan

The operation of the Shot Blaster Baghouse control system within the ranges specified above plus component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter limits.

## Emission Point ID EP 18-03 – Blast and Prime Line RTO and Paint Filters

### I. Background

#### a. Emission Unit

Description: An automatic painting system (EP 18-03) within the painting cabinet (EU 18) applies the primer at the specified coating thickness, typically 0.5 to 1 mils. 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 evolved 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.

Identification: Control Device ID C1803A and C1803B

#### b. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017, 59:010, 59:225, and 63:020

Emission Limits:

Filterable PM emission limit is 0.51 lb/hr ; 2.24 ton/year

Filterable PM<sub>10</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

VOC emission limit is 5.52 lb/hr; 24.20 ton/year

The most restrictive PM and VOC emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM and VOC limitations.

Monitoring Requirements:

- i. Continuous monitoring and recordkeeping of the combustion temperature of the RTO;
- ii. Capture system monitoring in accordance with the facility's capture system monitoring plan;
- iii. Daily qualitative visual observation of the opacity of emissions when the affected facility is in operation;
- iv. Weekly visual inspection of paint system filter and key control equipment;
- v. Pressure drop across the paint system filter at least once per shift; and
- vi. Monthly operational status inspection of the equipment.

c. Control Technology

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 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 evolved from the painting and drying operations (EP 18-03 and EP 18-05) within the painting cabinet (EU 18).

II. Monitoring Approach

The key elements of the monitoring approach for PM and VOC emissions are presented in the table 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.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I. Indicator Measurement Approach	RTO Combustion Chamber Temperature	Capture System Monitoring*	Opacity	RTO and Filter Weekly Visual Inspections	Pressure Drop	Inspection Program
	Thermocouple	TBD	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 outside the range recommended by the manufacturer.	TBD	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.	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.
III. Performance Criteria						
A. Data Representativeness	The RTO combustion chamber temperature is measured. The minimum acceptable accuracy of the meter is $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °Celsius, whichever is greater.	TBD	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
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	TBD	Confirmation of records	Confirmation of records	Operation in accordance with manufacturer's recommendations	Confirmation of records

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
C. QA/QC Practices and Criteria	The calibration of the thermocouple will be verified every 3 months. Acceptance criteria: $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °Celsius, whichever is greater	TBD	Trained personnel perform observations	Trained personnel perform inspections and maintenance	Periodic calibration of pressure gauges	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Continuous (recorded (at least once every 15 minutes))	TBD	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)	TBD	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
Averaging Period	3 hours	TBD	NA		NA	NA

\*Please note that performance testing on the automatic painting system has not been conducted and thus a capture system monitoring plan, the purpose of which is to assure compliance with the tested capture efficiency, has not been developed.

### III. Rationale and Justification of Plan

The operation of the Blast and Prime Line RTO and Paint Filters system within the ranges specified above plus component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter and volatile organic compound limits.



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# Amended Title V Permit Renewal Application

PREPARED FOR  
Nucor Steel Brandenburg

DATE  
June 2025

REFERENCE  
0759930



SIGNATURE PAGE

# Amended Title V Permit Renewal Application

0759930



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## 1. INTRODUCTION

Nucor Steel Brandenburg (NSBB, Nucor, or the facility), a subsidiary of Nucor Corporation (Nucor), is a plate steel manufacturing plant (SIC 3312) in Brandenburg, Kentucky (Meade County). Nucor currently operates under Title V Permit Number V-20-001 R2, which was issued on July 23, 2020 and most recently revised on June 20, 2024. The Title V Permit will expire on July 23, 2025. An application for a permit renewal must be submitted at least 6 months prior to the expiration date of the Title V Permit. Provided that a complete application is submitted in a timely fashion, the source may continue to operate under the expired permit. Therefore, Nucor submits this Title V Permit Renewal Application in accordance with Kentucky Administrative Regulations (KAR) 401 Chapter 52:020 Section 12. Per KAR 401 Chapter 52:020 Section 4, within this application, Nucor provides only the information that is new or different from the most recent source-wide permit application and certification by a responsible official. Additionally, Nucor is including the Continuous Assurance Monitoring (CAM) plans for other pollutant-specific emission units as required by 40 CFR 64.5(b).



## 2. FACILITY DESCRIPTION

The NSBB plate mill recycles scrap steel and scrap substitutes using the EAF process. Scrap steel and scrap substitutes are delivered to the facility by barge, rail, and truck. Scrap steel, scrap substitutes, carbon, and flux are charged to the EAF and melted by applying electric current through the feed mixture. Molten metal is tapped to a ladle and transferred to the LMF, where the chemistry and temperature of the steel is adjusted to customer specifications. From the LMF, the molten metal may be transferred to a vacuum degasser prior to being cast as slabs. The slabs are heated to a consistent temperature in a reheat furnace and car bottom furnaces prior to being rolled and shaped to its final form as hot rolled plate coils, light plates, or heavy plates.

Nucor has an annual steel production rate of 1.75 million tons per year. Additional emission units are present to support the production processes and were detailed in the prior Title V application.

Section 3 summarizes the proposed changes being requested for inclusion in the permit renewal.

### 3. PROPOSED PERMIT REVISIONS

The proposed permit revisions discussed in this section include the following:

1. Addition of an insignificant activity, Scrap Cutting Torches;
2. Addition of an insignificant activity, Alloy Bunkers;
3. Increase in the annual throughput of EP 01-08A – Tundish Preparation – Dump Station from 1,800 tons refractory/year to 2,300 tons refractory/year;
4. Increase in the heat input capacity of EP 18-01 – Paint System Preheater from 0.00066 MMBtu/hr to 2.39 MMBtu/hr
5. Increase in the heat input capacity of EP 18-05 – Paint System Dryer from 0.000095 MMBtu/hr to 0.34 MMBtu/hr
6. Reallocation of emissions to associated release points (06-01, 06-03, 06-05);
7. Revision of the description for EP 12-04 – Slag Plant Oxy Fuel-Fired Torches;
8. Revision of the description for EP 16-01 – Cleaning Tanks;
9. Decrease in the annual throughput of EP 18-02 – Blast & Paint Line Shot Blaster from 1,000,000 tons/year to 132,000 tons/year
10. Removal of EP 05-04 – Heavy Plate Tagger;
11. Removal of EP 15-01 – Natural Gas Direct-Fired Heaters, Process Water Heaters & Air Makeup Heaters;
12. Removal of EP 15-02 – Gasoline Storage Tanks #1 & #2.

#### 3.2 ADDITION OF INSIGNIFICANT ACTIVITY – SCRAP CUTTING TORCHES

Nucor submitted a request for an off-permit change on June 20, 2024, which requested using up to eight (8) propane gas torches to process 30,000 tons of steel slabs from July 15, 2024 to October 23, 2024. This request was approved by the Kentucky Energy and Environment Cabinet, Department for Environmental Protection on July 8, 2024. Nucor still has a need to process steel slabs and, therefore requests that the propane-fueled scrap cutting torches be added as an insignificant activity.

KAR 401 Chapter 52:020 Section 6 details that an insignificant activity shall (1) have a potential to emit less than or equal to one-half ton per year of combined hazardous air pollutants (HAPs), (2) have a potential to emit less than or equal to five (5) tons per year of a nonhazardous regulated air pollutant, (3) shall not involve the incineration of medical waste, and (4) shall not be subject to a federally enforceable requirement, other than generally applicable requirements. Nucor believes the scrap cutting torches meet the conditions to be classified as an insignificant activity. The potential to emit calculations for the scrap cutting torches are included in Appendix B to support this determination.



### 3.3 ADDITION OF INSIGNIFICANT ACTIVITY – ALLOY BUNKERS

Nucor requests additional alloy storage be added to the facility. The storage will be four (4) 3-sided alloy bunkers and a surrounding building. Please note that the increase in storage will not affect the short- or long-term capacity of any other emission units at the facility.

KAR 401 Chapter 52:020 Section 6 details that an insignificant activity shall (1) have a potential to emit less than or equal to one-half ton per year of combined hazardous air pollutants (HAPs), (2) have a potential to emit less than or equal to five (5) tons per year of a nonhazardous regulated air pollutant, (3) shall not involve the incineration of medical waste, and (4) shall not be subject to a federally enforceable requirement, other than generally applicable requirements. Nucor believes the alloy bunkers meet the conditions to be classified as an insignificant activity. The potential to emit calculations for the alloy bunkers are included in Appendix B to support this determination.

### 3.4 INCREASE IN THE ANNUAL THROUGHPUT LIMIT OF EP 01-08A – TUNDISH PREPARATION – DUMP STATION

Nucor requests that the annual throughput limit of EP 01-08A – Tundish Preparation – Dump Station be increased from 1,800 tons refractory per year to 2,300 tons refractory per year. The dump station operates as a short sequence batch. The maximum tons refractory per hour rate is not increasing, however batches will have the potential to occur more frequently than permitted, which increases its yearly throughput. Please note the potential to emit calculations and BACT limitations were based on the assumption that the maximum hourly rate of 2.7 tons/hr was multiplied by 8,760 hours per year. Therefore, the potential to emit calculations and long term modeling rates were based on a long term capacity of 23,652 tons per year. Therefore, Nucor believes that this increase will not affect other permitted limitations or BACT determinations.

### 3.5 INCREASE IN THE HEAT INPUT CAPACITY OF EP 18-01 – PAINT SYSTEM PREHEATER

Upon review of the air equipment inventory, Nucor identified that the paint system preheater has a higher heat input capacity than was initially permitted. Nucor requests that the heat input capacity of EP 18-01 – Paint System Preheater be increased from 0.00066 MMBtu/hr to 2.39 MMBtu/hr. The associated emissions increase from the increase in the heat input capacity is not significant, including when combined with the cumulative increases in emissions that are included in the application. The updated potential to emit calculations are included in Appendix B. Additionally, Nucor believes that previous regulatory and BACT determinations made for this source are unchanged.

### 3.6 INCREASE IN THE HEAT INPUT CAPACITY OF EP 18-05 – PAINT SYSTEM DRYER

Upon review of the air equipment inventory, Nucor identified that the paint system dryer has a higher heat input capacity than was initially permitted. Nucor requests that the heat input capacity of EP 18-01 – Paint System Preheater be increased from 0.000095 MMBtu/hr to 0.34 MMBtu/hr. The associated emissions increase from the increase in the heat input capacity is not significant including when combined with the cumulative increases in emissions that are included in the application. The updated potential to emit calculations are included in Appendix B. Additionally, Nucor believes that previous regulatory and BACT determinations made for this source are unchanged.

### 3.7 REALLOCATION OF EMISSIONS TO ASSOCIATED RELEASE POINTS (06-01, 06-03, 06-05)

As built conditions at Nucor are that only EP 06-01 – EAF Flux and Carbon Handling vents to C0601 and EP 06-03 – LMF Flux and Carbon Handling and 06-05 – LMF Alloy Unloading vent to C0605. The reallocated stacks were incorporated into the air dispersion modeling, submitted in the March 2024 reconciliation of as-built changes application. This reallocation was requested in the March 2024 reconciliation of as-built changes application but was not applied to the permit.

### 3.8 REVISION IN THE DESCRIPTION FOR EP 12-04 – SLAG PLANT OXY FUEL-FIRED TORCHES

Nucor would like to update the previously submitted process description for EP-12-04 – Slag Plant Oxy-Fuel Fired Torches. In previous applications, EP 12-04 was described as five (5) oxy fuel-fired handheld torches. Nucor would like to replace multiple handheld torches with a track torch. Therefore, Nucor would like the process description to be updated to slag plant oxy fuel-fired handheld and track torches. Nucor requests that the short- and long-term capacity, natural gas consumption, and BACT limits remain unrevised. The replacement will not result in increased capacity and the maximum natural gas consumption will be at or below what is currently permitted.

### 3.9 REVISION IN THE DESCRIPTION FOR EP 16-01 – CLEANING TANKS

Nucor would like to update the previously submitted process description for EP-16-01 – Cleaning Tanks. In previous applications, EP 16-01 was described as 16 cleaning tanks; however, Nucor no longer needs four (4) of the cleaning tanks. Therefore, Nucor would like the process description to be updated to 12 cleaning tanks.

### 3.10 DECREASE IN THE ANNUAL THROUGHPUT LIMIT OF EP 18-02 – BLAST & PAINT LINE SHOT BLASTER

Nucor requests that the annual throughput limit of EP 18-02 – Blast & Paint Line Shot Blaster be decreased from 1,000,000 tons per year to 132,000 tons per year. While reviewing CAM applicable sources at the facility, Nucor determined that the permitted annual throughput is significantly higher than the maximum annual throughput. This determination was made because the line's processing rate is limited to the rate that a crane can load steel to the line, which has been determined to be 132,000 tons per year, compared to the currently permitted 1,000,000 tons per year. Please note the potential to emit calculations and BACT limitations are based on the grain loading and exhaust flow rate of the dust collector. Therefore, Nucor believes that this decrease will not affect other permitted limitations, BACT determinations, or modeled emission rates.

### 3.11 REMOVAL OF EMISSION UNITS

Nucor requests the removal of the following sources from the Title V permit as they are not present at the facility:

1. EP 05-04 – Heavy Plate Tagger;
2. EP 15-01 – Natural Gas Direct-Fired Heaters, Process Water Heaters & Air Makeup Heaters;  
and
3. EP 15-02 Gasoline Storage Tanks #1 & #2.

## 4. REGULATORY ANALYSIS

The following regulatory analysis identifies potentially applicable state and federal air quality regulations and explains why each regulation is or is not considered applicable to the changes proposed above for this project.

### 4.1 KENTUCKY AIR QUALITY REGULATIONS

Nucor is located in Meade County, which is designated as attainment/unclassifiable for all National Ambient Air Quality Standards (NAAQS) as per the Kentucky Administrative Regulations, 401 KAR 51:010.

#### 4.1.1 401 KAR 50 – DIVISION FOR AIR QUALITY; GENERAL ADMINISTRATIVE PROCEDURES

The purpose of 401 KAR Chapter 50 is to establish general procedures and requirements relating to fees, modeling, engineering practice, monitoring, testing, and compliance. Nucor shall comply with the procedures and requirements of this chapter.

#### 4.1.2 401 KAR 51:017 - PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Prevention of Significant Deterioration (PSD) applies to new major stationary sources or major modifications at existing major stationary sources located in NAAQS attainment or unclassifiable areas. The NSBB Mill is located in Meade County. Meade County has been designated by the U.S. EPA as "attainment" for all criteria pollutants. Therefore, the potentially applicable federal construction-permitting program to the NSBB Mill is the PSD permitting program. A facility is a major stationary source under the PSD permitting program if it is:

1. One of the listed stationary source categories in 401 KAR 51:017 Section 7(1)(c) and has the potential to emit greater than 100 tons per year of one or more regulated NSR pollutants; or
2. Any other stationary source which has the potential to emit 250 tons per year or more of a regulated NSR pollutant.

The NSBB Mill is one of the listed stationary source categories in 401 KAR 51:001, Section 1(118), and emissions have the potential to exceed 100 tons per year for several regulated NSR pollutants; therefore, the mill is considered a major source under the PSD permitting program. However, because this application is not for a new major stationary source or a major modification, PSD is not triggered.

#### 4.1.3 401 KAR 63:010 – FUGITIVE EMISSIONS

401 KAR 63:010 establishes requirements for an apparatus, operation, or road that emits or may emit fugitive emissions, provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard. This standard will apply to the proposed scrap cutting torches and alloy bunkers.

Nucor shall take reasonable precautions to prevent PM from becoming airborne. Such precautions include, but are not limited to the approaches in 401 KAR 63:010, Section 3(1) and 4(1), listed below:

1. "Use, where possible, 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;
2. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;
3. 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;
4. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;
5. The maintenance of paved roadways in a clean condition;
6. 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."
7. Covering open bodied trucks that are operating outside company property that are transporting materials likely to become airborne.

Additionally, Nucor shall ensure there is no "discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate," as required by 401 KAR 63:010, Section 3(2) and shall not allow "earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway" as per 401 KAR 63:010, Section 4(3). Because Nucor is such a large facility, there are several "internal" lot lines on the property. For clarity, the visible emission requirements that are applicable to the "lot line" in 401 KAR 63:010 only apply to the external lot line of the property.

#### 4.1.4 401 KAR 63:020 – POTENTIALLY HAZARDOUS MATTER OR TOXIC SUBSTANCES

This regulation applies to emissions of potentially hazardous matter or toxic substances, which are not subject to provisions of any other regulations of the Division for Air Quality. As defined in 401 KAR 63:020, Section 2:

"Potentially hazardous matter or toxic substances means matter which may be harmful to the health and welfare of humans, animals, and plants, including, but not limited to, antimony, arsenic, bismuth, lead, silica, tin, and compounds of such materials."

This standard will apply to the proposed scrap cutting torches.

Nucor shall control the emissions of potentially hazardous matter and toxic substances to ensure they are not emitted "in such quantities or duration as to be harmful to the health and welfare of humans, animals, and plants," as per 401 KAR 63:020, Section 3.

## 4.2 FEDERAL AIR QUALITY REGULATIONS

### 4.2.1 NEW SOURCE PERFORMANCE STANDARDS

New Source Performance Standards (NSPS) require new, modified, or reconstructed sources to control emissions to the level achievable by the best-demonstrated technology as specified in the applicable provisions. The NSPS regulations are codified under 40 CFR Part 60. Nucor does not believe that NSPS subpart applicability will be affected by the proposed changes.

### 4.2.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

National Emission Standards for Hazardous Air Pollutants (NESHAP) are emission standards that are generally applicable to major sources of HAPs, but also apply to certain area sources of HAPs. The NESHAP regulations are codified under 40 CFR Parts 61 and 63. Nucor does not believe that NESHAP subpart applicability will be affected by the proposed changes.

### 4.2.3 COMPLIANCE ASSURANCE MONITORING

Under 40 CFR Part 64, CAM regulations, facilities are required to prepare and submit monitoring plans for certain emission units with the initial or renewal Part 70 operating permit application. Under the general applicability criteria, CAM only applies to each pollutant-specific emission unit (PSEU) that satisfies the following criteria pursuant to 40 CFR 64.2(a)(1)-(3):

1. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
2. The unit uses an active control device to achieve compliance with an emission limitation or standard; and
3. The unit has potential pre-control device emissions, of the applicable regulated air pollutant, equal to or greater than the amount (tons per year) required to classify the unit as a major source under Part 70.

Pursuant to 40 CFR 64.2(b), CAM does not apply to any emission unit that is subject to a NSPS or NESHAP promulgated after November 15, 1990, as these standards are designed with monitoring that provides a reasonable assurance of compliance.

As defined in 40 CFR 64.1 a "control device", for purposes of this part does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics.

Nucor employs low-NO<sub>x</sub> burners in most of the fuel burning equipment. The objective in the application of low-NO<sub>x</sub> burners is to minimize NO<sub>x</sub> formation, while maintaining acceptable combustion of carbon and hydrogen in the fuel. As the primary purpose of the low-NO<sub>x</sub> burners is to prevent the formation of pollutants, they are defined as a passive control measure and a CAM plan is not required.

In accordance with 40 CFR 64.5(a), a CAM plan is required as part of an application for an initial Title V permit for large PSEUs, units whose post-controlled emissions are greater than the major source emission thresholds, that satisfy the CAM general applicability criteria. The Melt Shop

Baghouse is the only egress point with controlled emissions (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>) greater than the major source emission thresholds that is subject to an emission limitation or standard and uses an active control device to achieve compliance with the emission limitation or standard. Therefore, a CAM Plan for the Melt Shop Baghouse was submitted with the initial Title V permit application and was approved by the Kentucky DAQ as Attachment A to Permit V-20-001 R2. Nucor is not requesting any changes to the negative pressure baghouse (C0101) that controls particulate emissions from the Melt Shop (EU 01).

In accordance with 40 CFR 64.5(b) a CAM plan is required as a part of an application for a renewal of a Title V permit for other PSEUs that satisfy the CAM general applicability criteria. CAM has been determined to be applicable to the following sources:

1. EP 03-04A – Steckel Mill Finishing Stand for (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>);
2. EP 04-01 – Continuous Heat Treat Line Shot Blaster for (PM, PM<sub>10</sub>, and PM<sub>2.5</sub>); and
3. EP 18-03 – Plate Painting Operations ((PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC).

Please note, EP 18-02 was initially determined to be CAM applicable. However, upon review of the source, Nucor determined that the permitted annual throughput is significantly higher than the maximum annual throughput of the Blast & Paint Line Shot Blaster. This determination was made because the line's processing rate is limited to the rate that a crane can load steel to the line, which has been determined to be 132,000 tons per year, compared to the currently permitted 1,000,000 tons per year. Nucor requests a decrease in the permitted annual throughput in this application. After quantifying the annual uncontrolled emission rates, it was determined that the Blast & Paint Shot Blaster is not CAM applicable.

Nucor has included the proposed CAM plans for these sources in Appendix C



APPENDIX A

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION – AIR – PERMIT APPLICATION  
FORMS

Division for Air Quality

300 Sower Boulevard  
 Frankfort, KY 40601  
 (502) 564-3999

**DEP7007AI**

**Administrative Information**

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

**Additional Documentation**

Additional Documentation attached

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 4/10/2025

**Section AI.1: Source Information**

<b>Physical Location</b>	<b>Street:</b>	<u>100 Ronnie Greenwell Road</u>		
<b>Address:</b>	<b>City:</b>	<u>Brandenburg</u>	<b>County:</b>	<u>Meade</u>
			<b>Zip Code:</b>	<u>40108</u>
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>100 Ronnie Greenwell Road</u>		
	<b>City:</b>	<u>Brandenburg</u>	<b>State:</b>	<u>KY</u>
			<b>Zip Code:</b>	<u>40108</u>

**Standard Coordinates for Source Physical Location**

**Longitude:** 38.00404 (decimal degrees)      **Latitude:** -86.1368 (decimal degrees)

**Primary (NAICS) Category:** Iron and Steel Mill and Ferroalloy Manufacturing      **Primary NAICS #:** 331110

<b>Classification (SIC) Category:</b>		<u>33-Primary Metal Industries</u>		<b>Primary SIC #:</b> <u>3316</u>	
<b>Briefly discuss the type of business conducted at this site:</b>		<u>Steel manufacturing</u>			
<b>Description of Area Surrounding Source:</b>	<input type="checkbox"/> Rural Area	<input type="checkbox"/> Industrial Park	<input type="checkbox"/> Residential Area	<b>Is any part of the source located on federal land?</b>	<input type="checkbox"/> Yes
	<input type="checkbox"/> Urban Area	<input checked="" type="checkbox"/> Industrial Area	<input type="checkbox"/> Commercial Area		<input checked="" type="checkbox"/> No
					<b>Number of Employees:</b> <span style="border: 1px solid black; padding: 2px;">400</span>
<b>Approximate distance to nearest residence or commercial property:</b> <u>1000 ft</u>		<b>Property Area:</b> <u>770 acres</u>		<b>Is this source portable?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?</b>					
<b>NPDES/KPDES:</b>	<input checked="" type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input type="checkbox"/> N/A		
<b>Solid Waste:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A		
<b>RCRA:</b>	<input checked="" type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input type="checkbox"/> N/A		
<b>UST:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A		
<b>Type of Regulated Waste Activity:</b>	<input type="checkbox"/> Mixed Waste Generator	<input checked="" type="checkbox"/> Generator	<input type="checkbox"/> Recycler	<input type="checkbox"/> Other: _____	
	<input type="checkbox"/> U.S. Importer of Hazardous Waste	<input type="checkbox"/> Transporter	<input type="checkbox"/> Treatment/Storage/Disposal Facility	<input type="checkbox"/> N/A	

## Section AI.2: Applicant Information

**Applicant Name:** Nucor Steel Brandenburg

**Title:** (if individual) \_\_\_\_\_

**Mailing Address:** **Street or P.O. Box:** 100 Ronnie Greenwell Road  
**City:** Brandenburg **State:** KY **Zip Code:** 40108

**Email:** (if individual) \_\_\_\_\_

**Phone:** \_\_\_\_\_

### Technical Contact

**Name:** Zachary Straney

**Title:** Environmental Engineer

**Mailing Address:** **Street or P.O. Box:** 100 Ronnie Greenwell Road  
**City:** Brandenburg **State:** KY **Zip Code:** 40108

**Email:** zachary.straney@nucor.com

**Phone:** 270-422-8245

### Air Permit Contact for Source

**Name:** Zachary Straney

**Title:** Environmental Engineer

**Mailing Address:** **Street or P.O. Box:** 100 Ronnie Greenwell Road  
**City:** Brandenburg **State:** KY **Zip Code:** 40108

**Email:** zachary.straney@nucor.com

**Phone:** 270-422-8245

<b>Section AI.3: Owner Information</b>	
<input checked="" type="checkbox"/> <b>Owner same as applicant</b>	
<b>Name:</b>	_____
<b>Title:</b>	_____
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b> _____
	<b>City:</b> _____ <b>State:</b> _____ <b>Zip Code:</b> _____
<b>Email:</b>	_____
<b>Phone:</b>	_____
<b>List names of owners and officers of the company who have an interest in the company of 5% or more.</b>	
<b>Name</b>	<b>Position</b>
_____	_____
_____	_____
_____	_____

**Section AI.4: Type of Application**

**Current Status:**       Title V     Conditional Major     State-Origin                       General Permit                       Registration                       None

Name Change                       Initial Registration                      Significant Revision                       Administrative Permit Amendment

**Requested Action:**       Renewal Permit     Revised Registration                       Minor Revision                       Initial Source-wide Operating Permit  
*(check all that apply)*

502(b)(10)Change     Extension Request                      Addition of New Facility                       Portable Plant Relocation Notice

Revision                       Off Permit Change                      Landfill Alternate Compliance Submittal                       Modification of Existing Facilities

Ownership Change     Closure

**Requested Status:**       Title V     Conditional Major     State-Origin                       PSD                       SR                       Other: \_\_\_\_\_

**Is the source requesting a limitation of potential emissions?**                       Yes                       No

<b>Pollutant:</b>	<b>Requested Limit:</b>	<b>Pollutant:</b>	<b>Requested Limit:</b>
<input type="checkbox"/> Particulate Matter	_____	<input type="checkbox"/> Single HAP	_____
<input type="checkbox"/> Volatile Organic Compounds (VOC)	_____	<input type="checkbox"/> Combined HAPs	_____
<input type="checkbox"/> Carbon Monoxide	_____	<input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)	_____
<input type="checkbox"/> Nitrogen Oxides	_____	<input type="checkbox"/> Carbon Dioxide	_____
<input type="checkbox"/> Sulfur Dioxide	_____	<input type="checkbox"/> Greenhouse Gases (GHG)	_____
<input type="checkbox"/> Lead	_____	<input type="checkbox"/> Other	_____

**For New Construction:**

**Proposed Start Date of Construction:** \_\_\_\_\_ **Proposed Operation Start-Up Date:** (MM/YYYY) \_\_\_\_\_  
*(MM/YYYY)*

**For Modifications:**

**Proposed Start Date of Modification:** \_\_\_\_\_ **Proposed Operation Start-Up Date:** (MM/YYYY) \_\_\_\_\_  
*(MM/YYYY)*

**Applicant is seeking coverage under a permit shield.**                       Yes                       No                      **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

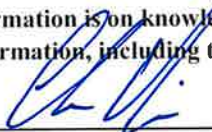
**Section A1.5 Other Required Information**

Indicate the documents attached as part of this application:

- |  |   |
|--|---|
| <input type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines                        | <input type="checkbox"/> DEP7007CC Compliance Certification                       |
| <input checked="" type="checkbox"/> DEP7007B Manufacturing or Processing Operations            | <input checked="" type="checkbox"/> DEP7007DD Insignificant Activities            |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners                               | <input type="checkbox"/> DEP7007EE Internal Combustion Engines                    |
| <input type="checkbox"/> DEP7007F Episode Standby Plan   | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing                  |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage                                      | <input type="checkbox"/> DEP7007GG Control Equipment                              |
| <input checked="" type="checkbox"/> DEP7007K Surface Coating or Printing Operations            | <input type="checkbox"/> DEP7007HH Haul Roads                                     |
| <input type="checkbox"/> DEP7007L Mineral Processes  | <input type="checkbox"/> Confidentiality Claim                                    |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers                                    | <input type="checkbox"/> Ownership Change Form                                    |
| <input checked="" type="checkbox"/> DEP7007N Source Emissions Profile                          | <input type="checkbox"/> Secretary of State Certificate                           |
| <input type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems                       | <input type="checkbox"/> Flowcharts or diagrams depicting process                 |
| <input type="checkbox"/> DEP7007R Emission Offset Credit                                       | <input type="checkbox"/> Digital Line Graphs (DLG) files of buldings, roads, etc. |
| <input type="checkbox"/> DEP7007S Service Stations   | <input type="checkbox"/> Site Map   |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations               | <input type="checkbox"/> Map or drawing depicting location of facility            |
| <input checked="" type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities | <input type="checkbox"/> Safety Data Sheet (SDS)                                  |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination     | <input type="checkbox"/> Emergency Response Plan                                  |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units        | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> DEP7007BB Certified Progress Report                                   |   |

**Section A1.6: Signature Block**

I, the undersigned, hereby certify under penalty of law, that I am a responsible official\*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

  
 \_\_\_\_\_  
 Authorized Signature  
 Chris Rice  
 \_\_\_\_\_  
 Type or Printed Name of Signatory

6-25-25  
 \_\_\_\_\_  
 Date  
 VP + GM  
 \_\_\_\_\_  
 Title of Signatory

\*Responsible official as defined by 401 KAR 52:001.

<b>Section AI.7: Notes, Comments, and Explanations</b>

Division for Air Quality  
 300 Sower Boulevard  
 Frankfort, KY 40601  
 (502) 564-3999

**DEP7007DD**

**Insignificant Activities**

- Section DD.1: Table of Insignificant Activities
- Section DD.2: Signature Block
- Section DD.3: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/10/2025

**Section DD.1: Table of Insignificant Activities**

\*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
1	Scrap Cutting Torches	TBD	KAR 401 Chapter 52:020 Section 6	See Appendix B
2	Alloy Bunkers	TBD	KAR 401 Chapter 52:020 Section 6	See Appendix B

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions

**Section DD.2: Signature Block**

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:



Authorized Signature

Chris Rice

Type/Print Name of Signatory

6-25-25

Date

VP & GM

Title of Signatory

<b>Section DD.3: Notes, Comments, and Explanations</b>

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

## DEP7007B

### Manufacturing or Processing Operations

- Section B.1: Process Information
- Section B.2: Materials and Fuel Information
- Section B.3: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI, DEP7007N,  
DEP7007V, and DEP7007GG.

- Attach a flow diagram
- Attach SDS

Source Name: Nucor Steel Brandenburg

KY EIS (AFS) #: 21-1163-00044

Permit #: V-20-001 R2

Agency Interest (AI) ID: 162861

Date: 1/9/2025

#### Section B.1: Process Information

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement (MM/YYYY)	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours (if applicable)	Hours per Batch (if applicable)
01-08A	Tundish Dump	Tundish refractory dump	01	Melt Shop	SMS	N/A	01/2020	Batch	As Needed	As Needed

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
01-08A	Tundish Dump	Refractory	2.7	ton	2.7	Refractory	2.7	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 5px 0 0 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0 0 20px;"> <input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)  <input type="checkbox"/> Section V.2: Monitoring Requirements  <input type="checkbox"/> Section V.3: Recordkeeping Requirements  <input type="checkbox"/> Section V.4: Reporting Requirements  <input type="checkbox"/> Section V.5: Testing Requirements  <input type="checkbox"/> Section V.6: Notes, Comments, and Explanations                 </p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI                             </td> </tr> </table>	Additional Documentation	<input type="checkbox"/> Complete DEP7007AI																														
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<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Source Name:</b></td> <td><u>Nucor Steel Brandenburg</u></td> </tr> <tr> <td><b>KY EIS (AFS) #:</b></td> <td><u>21-163-00044</u></td> </tr> <tr> <td><b>Permit #:</b></td> <td><u>V-20-001-R2</u></td> </tr> <tr> <td><b>Agency Interest (AI) ID:</b></td> <td><u>162861</u></td> </tr> <tr> <td><b>Date:</b></td> <td><u>1/10/2025</u></td> </tr> </table>			<b>Source Name:</b>	<u>Nucor Steel Brandenburg</u>	<b>KY EIS (AFS) #:</b>	<u>21-163-00044</u>	<b>Permit #:</b>	<u>V-20-001-R2</u>	<b>Agency Interest (AI) ID:</b>	<u>162861</u>	<b>Date:</b>	<u>1/10/2025</u>																						
<b>Source Name:</b>	<u>Nucor Steel Brandenburg</u>																																	
<b>KY EIS (AFS) #:</b>	<u>21-163-00044</u>																																	
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<b>Agency Interest (AI) ID:</b>	<u>162861</u>																																	
<b>Date:</b>	<u>1/10/2025</u>																																	
<b>Section V.1: Emission and Operating Limitation(s)</b>																																		
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 10%;">Emission Unit #</th> <th style="width: 15%;">Emission Unit Description</th> <th style="width: 15%;">Applicable Regulation or Requirement</th> <th style="width: 10%;">Pollutant</th> <th style="width: 10%;">Emission Limit (if applicable)</th> <th style="width: 10%;">Voluntary Emission Limit or Exemption (if applicable)</th> <th style="width: 10%;">Operating Requirement or Limitation (if applicable)</th> <th style="width: 10%;">Method of Determining Compliance with the Emission and Operating Requirement(s)</th> </tr> </thead> <tbody> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM (filterable)</td> <td>0.024 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM10</td> <td>0.012 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> <tr> <td>01-08A</td> <td>Tundish Dump</td> <td>401 KAR 51:017</td> <td>PM2.5</td> <td>0.004 lb/hr</td> <td>N/A</td> <td>N/A</td> <td>Monitoring (see V.2)</td> </tr> </tbody> </table>			Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)	01-08A	Tundish Dump	401 KAR 51:017	PM (filterable)	0.024 lb/hr	N/A	N/A	Monitoring (see V.2)	01-08A	Tundish Dump	401 KAR 51:017	PM10	0.012 lb/hr	N/A	N/A	Monitoring (see V.2)	01-08A	Tundish Dump	401 KAR 51:017	PM2.5	0.004 lb/hr	N/A	N/A	Monitoring (see V.2)
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)																											
01-08A	Tundish Dump	401 KAR 51:017	PM (filterable)	0.024 lb/hr	N/A	N/A	Monitoring (see V.2)																											
01-08A	Tundish Dump	401 KAR 51:017	PM10	0.012 lb/hr	N/A	N/A	Monitoring (see V.2)																											
01-08A	Tundish Dump	401 KAR 51:017	PM2.5	0.004 lb/hr	N/A	N/A	Monitoring (see V.2)																											

**Section V.2: Monitoring Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	Routine maintenance on the control equipment
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	Periodic Inspections
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	Periodic Inspections

**Section V.3: Recordkeeping Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	General Recordkeeping Requirements
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	General Recordkeeping Requirements
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	General Recordkeeping Requirements

**Section V.4: Reporting Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	General Reporting Requirements
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	General Reporting Requirements
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	General Reporting Requirements

**Section V.5: Testing Requirements**

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
01-08A	Tundish Dump	PM (filterable)	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
01-08A	Tundish Dump	PM10	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
01-08A	Tundish Dump	PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b>  <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.  <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
--	--	---

**Source Name:** Nucor Steel Brandenburg  
**KY EIS (AFS) #:** 21- 163-00044  
**Permit #:** V-20-001 R2  
**Agency Interest (AI) ID:** 162861  
**Date:** 4/10/2025

<b>Section B.1: Process Information</b>										
Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
03-04	Steckel Mill Finishing Stand	Reducing of steel to produce light plates or coils	03	Hot Rolling Mill	Danieli	N/A	04/2022	Continuous	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
03-04	Mill Finishing Stand	Lubricating Oils & Greases	N/A	N/A	250	Steel Strip	250	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

**DEP7007V**

**Applicable Requirements and Compliance Activities**

**Additional Documentation**

\_\_\_ Complete DEP7007AI

- \_\_\_ Section V.1: Emission and Operating Limitation(s)
- \_\_\_ Section V.2: Monitoring Requirements
- \_\_\_ Section V.3: Recordkeeping Requirements
- \_\_\_ Section V.4: Reporting Requirements
- \_\_\_ Section V.5: Testing Requirements
- \_\_\_ Section V.6: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg  
**KY EIS (AFS) #:** 21-163-00044  
**Permit #:** V-20-001 R2  
**Agency Interest (AI) ID:** 162861  
**Date:** 1/9/2025

**Section V.1: Emission and Operating Limitation(s)**

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.005 gr/dscf PM 0.005 gr/dscf PM <sub>10</sub> 0.0025 gr/dscf PM <sub>2.5</sub>	N/A	Install, operate, and maintain a high efficiency venturi scrubber designed with a 99% control efficiency of PM/PM <sub>10</sub> /PM <sub>2.5</sub>	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	VOC	5.95 ton/yr	N/A	Annual oil and grease consumption, on a 12-month rolling basis, shall not exceed 128.5 tons/yr	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 51:017	CO <sub>2e</sub>	227 ton/yr	N/A	Energy efficient design	N/A
EP 03-04	Steckel Mill Finishing Stand	401 KAR 59:010, Section 3(1)	Opacity	≤ 20%	N/A	N/A	Monitoring (See V.2) Recordkeeping (see V.3)
EP 03-04	Steckel Mill Finishing Stand	401 KAR 59:010, Section 3(1)	PM	PM Process Weight Rate Emission Limit	N/A	N/A	Monitoring (See V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Operational Status	Monitor the pressure drop across the scrubber and the scrubber liquid flow rate.
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	Oil and grease	Oil and grease usage monitored monthly
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General Monitoring Requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	Visible emissions	Weekly visible emission checks during operation of the unit
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	Steel Processed	Calculate the process weight rate and the hourly emissions of PM, as a monthly average, based on the method specified in appendix A to 401 KAR 59:010 for comparison to the standard.

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Operational Status	Record the pressure drop across the scrubber and the scrubber liquid flow rate.
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	Oil and grease	Oil and grease usage recorded monthly
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General Recordkeeping Requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	Visible emissions	Weekly visible emission checks during operation of the unit
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	Steel Processed	Calculate the process weight rate and the hourly emissions of PM, as a monthly average, based on the method specified in appendix A to 401 KAR 59:010 for comparison to the standard.

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2</sub> e	401 KAR 51:017	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	N/A	General reporting requirements
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	N/A	General reporting requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
EP 03-04	Steckel Mill Finishing Stand	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	VOC	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	CO <sub>2e</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
EP 03-04	Steckel Mill Finishing Stand	PM	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b>  <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
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**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/9/2025

**Section B.1: Process Information**

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
04-01	Shot Blaster	Removing surface deposits on light steel plates and preparing light steel plates for further treatment.	04	Continuous Heat Treat	SMS	N/A	04/2022	Continuous	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit <i>(tons/hr)</i>	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				<i>(Specify Units/hr)</i>				<i>(Specify Units/hr)</i>			<i>(Specify Units)</i>		<i>(Specify Units)</i>		
04-01	Shot Blaster	Steel Plate	N/A	N/A	50	Steel Plate	50	ton	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

## DEP7007V

### Applicable Requirements and Compliance Activities

- Section V.1: Emission and Operating Limitation(s)
- Section V.2: Monitoring Requirements
- Section V.3: Recordkeeping Requirements
- Section V.4: Reporting Requirements
- Section V.5: Testing Requirements
- Section V.6: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21-163-00044

**Permit #:** V-20-001 R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/9/2025

#### Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
EP 04-01	Shot Blaster	401 KAR 51:017	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.003 gr/dscf	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	General reporting requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
EP 04-01	Shot Blaster	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b> ___ Section B.1: Process Information ___ Section B.2: Materials and Fuel Information ___ Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b> ___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. ___ Attach a flow diagram ___ Attach SDS
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**Source Name:** Nucor Steel Brandenburg  
**KY EIS (AFS) #:** 21-163-00044  
**Permit #:** V-20-001-R2  
**Agency Interest (AI) ID:** 162861  
**Date:** 4/10/2025

**Section B.1: Process Information**

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
06-01	EAF Flux and Carbon Handling System	Dump Station with enclosed conveyor to transfer lime	06	Lime, Carbon, Alloy Handling Systems	N/A	N/A	04/2022	Batch	N/A	N/A
06-03	LMF Flux and Carbon Handling System	Dump Station with enclosed conveyor to transfer carbon	07	Lime, Carbon, Alloy Handling Systems	N/A	N/A	04/2022	Batch	N/A	N/A
06-05	LMF Alloy Handling System	Dump Station with enclosed conveyor to transfer alloys	08	Lime, Carbon, Alloy Handling Systems	N/A	N/A	04/2022	Batch	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
06-01	EAF Flux and Carbon Handling System	Lime	120	ton/hr	120	Lime and Carbon	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A
06-03	LMF Flux and Carbon Handling System	Carbon	120	ton/hr	120	Lime and Carbon	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A
06-05	LMF Alloy Handling System	Alloy	120	ton/hr	120	Alloys	120	ton/hr	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.5: Testing Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 5px;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI                             </td> </tr> </table>	Additional Documentation	<input type="checkbox"/> Complete DEP7007AI																		
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<input type="checkbox"/> Complete DEP7007AI																						
<p><b>Source Name:</b> <u>Nucor Steel Brandenburg</u></p> <p><b>KY EIS (AFS) #:</b> <u>21- 163-00044</u></p> <p><b>Permit #:</b> <u>V-20-001-R2</u></p> <p><b>Agency Interest (AI) ID:</b> <u>162861</u></p> <p><b>Date:</b> <u>1/15/2025</u></p>																						
<h3 style="margin: 0;">Section V.1: Emission and Operating Limitation(s)</h3>																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; padding: 5px;">Emission Unit #</th> <th style="width: 15%; padding: 5px;">Emission Unit Description</th> <th style="width: 15%; padding: 5px;">Applicable Regulation or Requirement</th> <th style="width: 10%; padding: 5px;">Pollutant</th> <th style="width: 10%; padding: 5px;">Emission Limit (if applicable)</th> <th style="width: 15%; padding: 5px;">Voluntary Emission Limit or Exemption (if applicable)</th> <th style="width: 10%; padding: 5px;">Operating Requirement or Limitation (if applicable)</th> <th style="width: 25%; padding: 5px;">Method of Determining Compliance with the Emission and Operating Requirement(s)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">06-01</td> <td style="padding: 5px;">EAF Flux &amp; Carbon Handling system</td> <td style="text-align: center; padding: 5px;">401 KAR 51:017</td> <td style="text-align: center; padding: 5px;">PM</td> <td style="padding: 5px;">0.28 lb/hr 0.13 ton/yr</td> <td style="text-align: center; padding: 5px;">N/A</td> <td style="padding: 5px;">Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions</td> <td style="text-align: center; padding: 5px;">Recordkeeping (see V.3)</td> </tr> </tbody> </table>	Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)	06-01	EAF Flux & Carbon Handling system	401 KAR 51:017	PM	0.28 lb/hr 0.13 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)						
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)															
06-01	EAF Flux & Carbon Handling system	401 KAR 51:017	PM	0.28 lb/hr 0.13 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)															

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-01	EAF Flux & Carbon Handling system	401 KAR 51:017	PM10	0.13 lb/hr 0.06 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	403 KAR 51:017	PM2.5	0.02 lb/hr 0.009 ton/yr	N/A	Install, operate, and maintain a baghouse designed to control 99.9% of particulate emissions	Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-01	EAF Flux & Carbon Handling system	401 KAR 59:010, Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit
06-01	EAF Flux & Carbon Handling system	401 KAR 63:010 Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-01	EAF Flux & Carbon Handling system	401 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A
06-03	LMF Flux and Carbon Handling System	401 KAR 51:017	PM	0.28 lb/hr 0.033 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	EAF Flux & Carbon Handling system	403 KAR 51:017	PM10	0.13 lb/hr 0.015 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	403 KAR 51:017	PM2.5	0.02 lb/hr 0.002 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-03	LMF Flux and Carbon Handling System	401 KAR 59:010, Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Applicable Regulation or Requirement</b>	<b>Pollutant</b>	<b>Emission Limit (if applicable)</b>	<b>Voluntary Emission Limit or Exemption (if applicable)</b>	<b>Operating Requirement or Limitation (if applicable)</b>	<b>Method of Determining Compliance with the Emission and Operating Requirement(s)</b>
06-03	LMF Flux and Carbon Handling System	401 KAR 63:010 Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A
06-03	LMF Flux and Carbon Handling System	402 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A
06-05	LMF Alloy Handling System	401 KAR 51:017	PM	0.027 lb/hr 0.07 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	402 KAR 51:017	PM10	0.13 lb/hr 0.033 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	403 KAR 51:017	PM2.5	0.02 lb/hr 0.005 ton/yr	N/A	Install, operate, and maintain a baghouse designed to controll 99.9% of particulate emissions	Recordkeeping (see V.3)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
06-05	LMF Alloy Handling System	401 KAR 59:010, Section 3(1)	Opacity	≤20	N/A	Visible Emissions from a control device or stack shall not equal or exceed 20% opacity	Monitoring (see V.2) Recordkeeping (see V.3)
06-05	LMF Alloy Handling System	401 KAR 59:010 Section 3(2)	PM	N/A	N/A	Hourly PM process weight rate emission limit	Compliance with 401 KAR 51:017 (BACT) Limit
06-05	LMF Alloy Handling System	401 KAR 59:010, Section 3(1)	Fugitive	N/A	N/A	Do not cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate	N/A
06-05	LMF Alloy Handling System	401 KAR 63:010 Section 3(2)	Fugitive	N/A	N/A	Take Reasonable precautions to prevent particulate matter from becoming airborne	N/A

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
06-01	EAF Flux & Carbon Handling System	PM2.5	401 KAR 51:017	N/A	General Monitoring Requirements
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 51:017	N/A	General Monitoring Requirements
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	PM	401 KAR 51:017	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	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.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Monitor the daily and 12-month rolling process weight rate in tons and the hours of operation.
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Monitoring Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Monitoring Requirements

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
06-01	EAF Flux & Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements
06-03	LMF Flux and Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	Maintain records of manufacturer's specifications identifying the grain loading and flow rate for which the control device was designed
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	Visible Emissions	Maintain a log of the weekly qualitative visual observations of the opacity of the emissions from each stack/vent.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Record Keeping Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Record Keeping Requirements

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
06-01	EAF Flux & Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	PM/PM10/PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	General Reporting Requirements
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	General Reporting Requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A
06-01	EAF Flux & Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
06-03	LMF Flux and Carbon Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A
06-05	LMF Alloy Handling System	PM	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	Opacity	401 KAR 59:010, Section 3(1)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	PM	401 KAR 59:010, Section 3(2)	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(1)	N/A	N/A
06-05	LMF Alloy Handling System	Fugitive	401 KAR 63:010 Section 3(2)	N/A	N/A

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007B</b> <b>Manufacturing or Processing Operations</b>  <input type="checkbox"/> Section B.1: Process Information <input type="checkbox"/> Section B.2: Materials and Fuel Information <input type="checkbox"/> Section B.3: Notes, Comments, and Explanations	<b>Additional Documentation</b> <input type="checkbox"/> Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG. <input type="checkbox"/> Attach a flow diagram <input type="checkbox"/> Attach SDS
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<b>Source Name:</b>	<b>Nucor Steel Brandenburg</b>
<b>KY EIS (AFS) #:</b>	<b>21-163-00044</b>
<b>Permit #:</b>	<b>V-20-001 R2</b>
<b>Agency Interest (AI) ID:</b>	<b>162861</b>
<b>Date:</b>	<b>1/9/2025</b>

**Section B.1: Process Information**

Emission Unit #	Emission Unit Name	Describe Emission Unit	Process ID	Process Name	Manufacturer	Model No.	Proposed/Actual Date of Construction Commencement <i>(MM/YYYY)</i>	Is the Process <u>Continuous</u> or <u>Batch</u> ?	Number of Batches per 24 Hours <i>(if applicable)</i>	Hours per Batch <i>(if applicable)</i>
12-04	Slag Plant Oxy Fuel-Fired Torches	Required to cut revert scrap for recycle to EAF	12	Slag Processing	N/A	N/A	12/2021	Batch	N/A	N/A

<b>Section B.2: Materials and Fuel Information</b>															
<i>*Maximum yearly fuel usage rate only applies if applicant request operating restrictions through federally enforceable limitations.</i>															
Emission Unit #	Emission Unit Name	Name of Raw Materials Input	Maximum Quantity of Each Raw Material Input		Total Process Weight Rate for Emission Unit (tons/hr)	Name of Finished Materials	Maximum Quantity of Each Finished Material Output		Fuel Type	Maximum Hourly Fuel Usage Rate		Maximum Yearly Fuel Usage Rate		Sulfur Content (%)	Ash Content (%)
				(Specify Units/hr)				(Specify Units/hr)			(Specify Units)		(Specify Units)		
12-04	Slag Plant Oxy Fuel-Fired Torches	Metal Scrap	12	tons	12	Metal Slag	12	tons	Natural Gas	9.90E-03	MMscf/hr	86.7	MMscf/yr	N/A	N/A



## DEP7007V

### Applicable Requirements and Compliance Activities

**Additional Documentation**

\_\_\_ Complete DEP7007AI

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

- \_\_\_ Section V.1: Emission and Operating Limitation(s)
- \_\_\_ Section V.2: Monitoring Requirements
- \_\_\_ Section V.3: Recordkeeping Requirements
- \_\_\_ Section V.4: Reporting Requirements
- \_\_\_ Section V.5: Testing Requirements
- \_\_\_ Section V.6: Notes, Comments, and Explanations

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21-163-00044

**Permit #:** V-20-001-R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/15/2025

#### Section V.1: Emission and Operating Limitation(s)

Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM (filterable)	1.95 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM10	7.65 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)

12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	PM2.5	7.65 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	CO	84 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	NOx	70 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	VOC	5.5 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)
12-04	Slag Plant Oxy Fuel-Fired Torches	401 KAR 51:017	SO2	0.6 lb/MMscf	N/A	Use of natural gas	Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>
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Emission Unit #	Emission Unit Description	Pollutant	Applicable Regulation or Requirement	Parameter Monitored	Description of Monitoring
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	Fuel usage	Monitoring of natural gas
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	Fuel usage	Monitoring of natural gas

### Section V.3: Recordkeeping Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	Fuel usage	Record natural gas usage
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	Fuel usage	Record natural gas usage

### Section V.4: Reporting Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	N/A	General Reporting Requirements
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	N/A	General Reporting Requirements

### Section V.5: Testing Requirements

<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
12-04	Slag Plant Oxy Fuel-Fired Torches	PM (filterable)	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	PM10	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	CO	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	NOx	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	VOC	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.
12-04	Slag Plant Oxy Fuel-Fired Torches	SO2	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045.



# DEP7007K

## Surface Coating or Printing Operations

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

- Section K.1: Process Information
- Section K.2: Coating Operations
- Section K.3: Other Operations
- Section K.4: Coatings/Printing Materials as Applied
- Section K.5: HAP-containing Coatings/Printing Materials
- Section K.6: Notes, Comments, and Explanations

**Additional Documentation**

Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.

Attach SDS or Technical Sheets for all Coating/Printing Materials

Attach a flow diagram

**Source Name:** Nucor Steel Brandenburg

**KY EIS (AFS) #:** 21- 163-00044

**Permit #:** V-20-001-R2

**Agency Interest (AI) ID:** 162861

**Date:** 1/15/2025

**Section K.1: Process Information**

**Emission Unit #:** 18

**Emission Unit Name:** Blast and Prime

**Coating/Printing Line Name:** Blast and Prime Line

**Proposed/Actual Date of Construction: (MM/YYYY)** Apr-22

**List Applicable Regulations:**  
401 KAR 51:017; 401 KAR 59:010; 401 KAR 59:225

**Describe Overall Process:**  
EP 18-01 - Pre heater (2 burners @ 1,195,883.624 Btu/hr each)  
EP 18-02 - One (1) Shot Blaster  
EP 18-03 - Plate Painting Operations  
EP 18-04 - RTO  
EP 18-05 - Paint Dryer (335,865.1879 Btu/hr)

**Describe Coatings/Printing Materials:**  
Commercially purchased paint material used in the prime coat booth

**Identify the Material that is Coated/Printed:**

- Metal     
  Vinyl     
  Plastics     
  Wood     
  Foil     
  Paper     
  Other Substrate

**Provide detailed description of material coated/printed:**

Steel Plate

**Provide approximate dimensions and range of sizes of parts being coated or printed:**

Height: 3/16" - 8"  
 Width: 60" - 170"  
 Length: 120" - 720"

**Identify the Type of Operation:**

- Continuous     
  Batch     
  Other:

**Describe Surface Preparation/Pretreatment Steps:**

Surface preparation in the Shot Blaster followed by preheating

**For Coating Operations:**

- Spray     
  Flow     
  Dip tank     
  Electrodeposition     
  Other:
- Brush     
  Powder     
  Roller Coat

**For Printing Operations:**

*(Select all that apply)*

- Web     
  Rotogravure     
  Heatset     
  Lithographic     
  Other:
- Sheetfed     
  Letterpress     
  Non-heatset     
  Flexographic

**Describe Final Product:**

Primed steel sheet for various uses

**Check the category that most closely describes this unit:**

- |   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> Large Appliance Coating                                  | <input type="checkbox"/> Auto or Light-Duty Truck Coating               | <input type="checkbox"/> Metal Furniture Coating                              | <input type="checkbox"/> Metal Coil Coating                               |
| <input type="checkbox"/> Beverage Can Coating                                     | <input type="checkbox"/> Miscellaneous Metal Parts Coating              | <input type="checkbox"/> Magnet Wire Insulation Coating                       | <input type="checkbox"/> Flat Wood Panel Coating                          |
| <input type="checkbox"/> Fabric, Vinyl, or Paper Coating                          | <input type="checkbox"/> Boat Manufacturing/ Ship Repair                | <input checked="" type="checkbox"/> Pressure Sensitive Tape and Label Coating | <input type="checkbox"/> Magnet Tape Coating                              |
| <input type="checkbox"/> Publication Rotogravure Printing                         | <input type="checkbox"/> Coating of Plastic Parts for Business Machines | <input type="checkbox"/> Flexible Vinyl and Urethane Coating and Printing     |   |
| <input type="checkbox"/> Graphic Arts using Rotogravure and Flexographic Printing |   |   | <input checked="" type="checkbox"/> Other: Steel plate protective coating |

**Section K.2: Coating Operations**

**K.2A: For Spray Coating**

Gun/Booth ID	Describe Function	Type	Mode	Maximum Design Application Rate <i>(gal/hr or lb/hr)</i>	Describe how maximum rate was determined
Primer Booth	Robotic applicators - Count TBD	<input type="checkbox"/> Conventional Air Gun <input checked="" type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic	42.3 gal/hr	<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input checked="" type="checkbox"/> Estimation
		<input type="checkbox"/> Conventional Air Gun <input type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input type="checkbox"/> Automatic		<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
		<input type="checkbox"/> Conventional Air Gun <input type="checkbox"/> Airless <input type="checkbox"/> Electrostatic <input type="checkbox"/> Aerosol Spray Can <input type="checkbox"/> HVLP <input type="checkbox"/> LVLP <input type="checkbox"/> Other	<input type="checkbox"/> Manual <input type="checkbox"/> Automatic		<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation

If spray guns are used simultaneously, describe:

TBD

**K.2B: For Brush Coating**

Describe Function:

Maximum Coating Application Rate:  
*(gal/hr)*

**K.2C: For Roller Coating**

Roller Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr)</i>	Describe how maximum rate was determined
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation
			<input type="checkbox"/> Testing <input type="checkbox"/> Equipment Specification Sheet <input type="checkbox"/> Estimation

**K.2D: For Powder Coating**

Powder Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

If powder coating material is recycled, describe:

**K.2E: For Flow Coating**

Flow Coat ID	Describe Function	Maximum Coating Application Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

**K.2F: For Dip Tank/Electrodeposition Coating**

Tank ID	Describe Function	Maximum Make-up Rate <i>(gal/hr or lb/hr)</i>		Describe how maximum rate was determined
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet
				<input type="checkbox"/> Testing <input type="checkbox"/> Estimation <input type="checkbox"/> Equipment Specification Sheet

**Section K.3: Other Operations**

**K.3A: For Finishing**

<b>Describe Finishing Processes:</b> <i>Complete Form DEP7007B as applicable</i>	<b>Paint Dryer</b>
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**K.3B: For Curing/Drying**

Describe Curing/Drying Processes:	Description	Rated Capacity <i>(MMBtu/hr)</i>	Fuel	Control Device/Stack ID
Paint Dryer	Dry-Off Oven	0.34	Natural Gas	RTO

**K.3C: For Purge**

Type: \_\_\_\_\_ Purge Solvent \_\_\_\_\_

Daily Usage: \_\_\_\_\_ 5 \_\_\_\_\_ gal/day

**K.3D: For Clean-up**

Type:  Manual  Automatic

Daily Usage: \_\_\_\_\_ hrs/day

Operating Hours: \_\_\_\_\_

**K.3E: For Other Equipment**

<b>Describe Processes:</b>	
----------------------------	--



<b>Section K.5: Hazardous Air Pollutant-containing Coatings/Printing Materials</b>						
List each individual hazardous air pollutant (HAP) contained in each material.						
<b>Trade Name of Material</b>	<b>HAP Name</b>	<b>HAP CAS #</b>	<b>Identify Solid (S) or Volatile (V)</b>	<b>HAP % by weight</b>	<b>HAP Emission Factor (lb/SCC)</b>	<b>Control Device/ Stack ID</b>
INTERPLATE 937 GREY	Xylene	1330-20-7	V	3.12%	0.004	RTO
INTERPLATE 937 GREY	Ethyl Benzene	100-41-4	V	3.12%	0.004	RTO



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 5px 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;">___ Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;">___ Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;">___ Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;">___ Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;">___ Section V.5: Testing Requirements</p> <p style="margin: 5px 0;">___ Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 2px;">Additional Documentation</th> </tr> <tr> <td style="padding: 2px;">___ Complete DEP7007AI</td> </tr> </table>	Additional Documentation	___ Complete DEP7007AI			
Additional Documentation							
___ Complete DEP7007AI							
<b>Source Name:</b> <u>Nucor Steel Brandenburg</u>							
<b>KY EIS (AFS) #:</b> <u>21- 163-00044</u>							
<b>Permit #:</b> <u>V-20-001-R2</u>							
<b>Agency Interest (AI) ID:</b> <u>162861</u>							
<b>Date:</b> <u>4/27/2025</u>							
<b>Section V.1: Emission and Operating Limitation(s)</b>							
Emission Unit #	Emission Unit Description	Applicable Regulation or Requirement	Pollutant	Emission Limit (if applicable)	Voluntary Emission Limit or Exemption (if applicable)	Operating Requirement or Limitation (if applicable)	Method of Determining Compliance with the Emission and Operating Requirement(s)
18-01	Paint System Preheater	401 KAR 51:017	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	1.9 lb/MMscf 7.6 lb/MMscf 100 lb/MMscf 84 lb/MMscf 0.6 lb/MMscf 5.5 lb/MMscf 120,713 lb/MMscf	N/A	Only natural gas shall be combusted in the preheater burner	Monitoring (see V.2) Recordkeeping (see V.3)
18-02	Shot Blaster	401 KAR 51:017	PM/PM10/ PM2.5	0.003 gr/dscf	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)
18-03	Plate Painting Operations	401 KAR 59:225; 401 KAR 51:017	VOC	Emit no more than 15% by weight of the VOCs net input into the affected facility; 98% VOC control	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)
18-03	Plate Painting Operations	401 KAR 51:017	PM/PM10/ PM2.5	99% PM control	N/A	Install, operate, and maintain a dust collector in accordance with manufacturer's specifications	Monitoring (see V.2) Recordkeeping (see V.3)
18-05	Paint System Dryer	401 KAR 51:017	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	1.9 lb/MMscf 7.6 lb/MMscf 100 lb/MMscf 84 lb/MMscf 0.6 lb/MMscf 5.5 lb/MMscf 120,713 lb/MMscf	N/A	Only natural gas shall be combusted in the dryer burner	Monitoring (see V.2) Recordkeeping (see V.3)

<b>Section V.2: Monitoring Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Monitored</b>	<b>Description of Monitoring</b>
18-01	Paint System Preheater	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	Natural gas combusted	Monthly and 12-month rolling natural gas combusted (MMscf)
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment
18-03	Plate Paint Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Monitor the RTO combustion chamber temperature whenever the painting system is in operation.
18-05	Paint System Dryer	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	Natural gas combusted	Monthly and 12-month rolling natural gas combusted (MMscf)

<b>Section V.3: Recordkeeping Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Recorded</b>	<b>Description of Recordkeeping</b>
18-01	Paint System Preheater	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	Natural gas combusted	Monthly and 12-month rolling natural gas combusted (MMscf)
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	Maintenance and operating parameters of control equipment
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Record the RTO combustion chamber temperature.
18-05	Paint System Dryer	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	Natural gas combusted	Monthly and 12-month rolling natural gas combusted (MMscf)

<b>Section V.4: Reporting Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Reported</b>	<b>Description of Reporting</b>
18-01	Paint System Preheater	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	N/A	General Reporting Requirements
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	Pressure drop across baghouse	General Reporting Requirements
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Temperature	Report exceedances and deviations
18-05	Paint System Dryer	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	N/A	General Reporting Requirements

<b>Section V.5: Testing Requirements</b>					
<b>Emission Unit #</b>	<b>Emission Unit Description</b>	<b>Pollutant</b>	<b>Applicable Regulation or Requirement</b>	<b>Parameter Tested</b>	<b>Description of Testing</b>
18-01	Paint System Preheater	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
18-02	Shot Blaster	PM/PM10/ PM2.5	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045
18-03	Plate Painting Operations	VOC	401 KAR 59:225; 401 KAR 51:017	RTO Efficiency	RTO Control Efficiency
18-05	Paint System Dryer	PM (filterable) PM10/PM2.5 NOx CO SO2 VOC CO2e	401 KAR 51:017	N/A	Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 50:045

<b>Section V.6: Notes, Comments, and Explanations</b>

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
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## DEP7007N

### Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

Additional Documentation
<input type="checkbox"/> Complete DEP7007AI

<b>Source Name:</b>	<b>Nucor Steel Brandenburg</b>
<b>KY EIS (AFS) #:</b>	<b>21- 1163-00044</b>
<b>Permit #:</b>	<b>V-20-001 R2</b>
<b>Agency Interest (AI) ID:</b>	<b>162861</b>
<b>Date:</b>	<b>4/27/2025</b>

### N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity <i>(SCC Units/hour)</i>	Pollutant	Uncontrolled Emission Factor <i>(lb/SCC Units)</i>	Emission Factor Source <small>(e.g. AP-42, Stack Test, Mass Balance)</small>	Capture Efficiency <i>(%)</i>	Control Efficiency <i>(%)</i>	Hourly Emissions		Annual Emissions		
													Uncontrolled Potential <i>(lb/hr)</i>	Controlled Potential	Uncontrolled Potential	Controlled Potential	
EU01	Melt Shop	EP 01-08A	Tundish Preparation - Tundish Dump Station	N/A	N/A	N/A	2.7	Filterable PM	8.80E-03	AP-42	N/A	N/A	0.02	N/A	0.10	N/A	
								PM10	4.30E-03	AP-42	N/A	N/A	0.01	N/A	0.05	N/A	
								PM2.5	1.60E-03	AP-42	N/A	N/A	0.004	N/A	0.02	N/A	
EU03	Hot Rolling Mill	EP 03-04A	Steckel Mill Finishing Stand - Scrubber	Steckel Mill Wet Scrubber	C0304	S0304	250	Filterable PM	6.88E-01	Scrubber design specification	95%	99%	171.88	1.72	752.85	7.53	
								PM10	6.88E-01	Engineering eval. at similar Nucor facilities	95%	99%	171.88	1.72	752.85	7.53	
								PM2.5	3.44E-01		95%	99%	85.94	0.86	376.42	3.76	
								VOC	6.46E-03		N/A	N/A	1.62	N/A	5.66	N/A	
								CO2e	2.46E-01		N/A	N/A	61.60	N/A	215.59	N/A	
								Total HAP	1.22E-03		N/A	N/A	0.30	N/A	1.07	N/A	
								EU03	Hot Rolling Mill		EP 03-04B	Steckel Mill Finishing Stand - RMMV	N/A	N/A	RMMV	250	Filterable PM
PM10	6.27E-03	Engineering eval. at similar Nucor facilities	N/A	N/A	1.57	N/A	6.87	N/A									
PM2.5	2.18E-03		N/A	N/A	0.55	N/A	2.39	N/A									
VOC	3.40E-04		N/A	N/A	0.09	N/A	0.30	N/A									
CO2e	1.30E-02		N/A	N/A	3.24	N/A	11.35	N/A									
Total HAP	6.41E-05		N/A	N/A	0.02	N/A	0.06	N/A									

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential (lb/hr)	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU04	Continuous Heat Treat Line	EP 04-01	Shot Blaster	Shot Blaster Dust Collector	C0401	S0401	50	Filterable PM	1.71E+00	SDS & AP-42	100%	99%	85.28	0.85	373.54	3.72
		SCC:	30300999	tons of steel processed				PM10	1.71E+00	Design Grain Loading	100%	99%	85.28	0.85	373.5	3.72
								PM2.5	1.71E+00	Design Grain Loading	100%	99%	85.28	0.85	373.5	3.72
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-01A	EAF Flux & Carbon Handling - Baghouse	EAF Flux & Carbon Handling Baghouse	C0601	S0601	120	Filterable PM	5.37E-01	AP-42	98%	100%	64.42	0.06	29.53	0.03
		SCC:	30300999	tons of lime processed				PM10	2.54E-01	AP-42	98%	100%	30.47	0.03	13.97	0.01
								PM2.5	3.84E-02	AP-42	98%	100%	4.61	0.005	2.11	0.002
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-01B	EAF Flux & Carbon Handling - Uncaptured	N/A	N/A	EP0601F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.10	N/A
		SCC:	30300999	tons of lime processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.05	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	0.01	N/A
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-03A	LMF Flux & Carbon Handling - Baghouse	LMF Flux & Carbon Handling and Alloy Dump Station Baghouse	C0605	S0605	120	Filterable PM	5.37E-01	AP-42	98%	100%	64.42	0.06	7.52	0.01
		SCC:	30300999	tons of carbon processed				PM10	2.54E-01	AP-42	98%	100%	30.47	0.03	3.55	3.55E-03
								PM2.5	3.84E-02	AP-42	98%	100%	4.61	4.61E-03	0.54	5.38E-04
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-03B	LMF Flux & Carbon Handling - Uncaptured	N/A	N/A	EP0603F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.03	N/A
		SCC:	30300999	tons of carbon processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.01	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	1.80E-03	N/A
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-05A	LMF Alloy Handling - Baghouse	LMF Flux & Carbon Handling and Alloy Dump Station Baghouse	C0605	S0605	120	Filterable PM	4.47E-01	AP-42	98%	100%	53.65	0.05	13.86	0.01
		SCC:	30300999	tons of alloy processed				PM10	2.11E-01	AP-42	98%	100%	25.37	0.03	6.56	0.01
								PM2.5	3.20E-02	AP-42	98%	100%	3.84	3.84E-03	0.99	9.93E-04
EU06	Lime, Carbon, Alloy Handling Systems	EP 06-05B	LMF Alloy Handling - Uncaptured	N/A	N/A	EP0605F	120	Filterable PM	1.80E-03	AP-42	N/A	N/A	0.22	N/A	0.06	N/A
		SCC:	30300999	tons of alloy processed				PM10	8.49E-04	AP-42	N/A	N/A	0.10	N/A	0.03	N/A
								PM2.5	1.29E-04	AP-42	N/A	N/A	0.02	N/A	3.99E-03	N/A

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential (lb/hr)	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU12	Slag Processing	EP 12-04A	Slag Plant Oxy Fuel-Fired Torches	Slag Plant Torch - Baghouse	C1204	S1204	12	Filterable PM	4.19E-02	Filterable PM/PM10/PM2.5 emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.	95%	100%	0.50	0.02	2.20	0.08
		SCC: 30300929	tons of steel processed					PM10	4.66E-02		95%	100%	0.56	0.08	2.45	0.33
								PM2.5	4.66E-02		95%	100%	0.56	0.08	2.45	0.33
								NOX	8.25E-02	AP-42	N/A	N/A	0.99	N/A	4.34	N/A
								CO	6.93E-02	AP-42	N/A	N/A	0.83	N/A	3.64	N/A
								SO2	4.95E-04	AP-42	N/A	N/A	0.01	N/A	0.03	N/A
								Lead	4.17E-07	AP-42	N/A	N/A	0.00	N/A	0.00	N/A
								VOC	4.54E-03	AP-42	N/A	N/A	0.05	N/A	0.24	N/A
								CO2e	9.96E+01	AP-42	N/A	N/A	1195.06	N/A	5234.36	N/A
								Total HAP	1.56E-03	SDS & AP-42	N/A	N/A	0.02	N/A	0.08	N/A
EU12	Slag Processing	EP 12-04B	Slag Plant Oxy Fuel-Fired Torches	Slag Plant Torch - Uncaptured	N/A	EP 12-04F	12	Filterable PM	2.23E-03	Filterable PM/PM10/PM2.5 emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.	N/A	N/A	0.03	N/A	0.12	N/A
		SCC: 30300929	tons of steel processed					PM10	2.23E-03		N/A	N/A	0.03	N/A	0.12	N/A
								PM2.5	2.23E-03		N/A	N/A	0.03	N/A	0.12	N/A
EU18	Blast & Paint Line	EP 18-01	Paint System Preheater	N/A	N/A	S1801	2.34E-03	Filterable PM	1.9	AP-42	N/A	N/A	4.46E-03	N/A	1.95E-02	N/A
		SCC: 30390003	tons of material coated				Million cubic feet burned	PM10	7.6	AP-42	N/A	N/A	1.78E-02	N/A	7.81E-02	N/A
								PM2.5	7.6	AP-42	N/A	N/A	1.78E-02	N/A	7.81E-02	N/A
								NOx	100	AP-42	N/A	N/A	2.34E-01	N/A	1.03E+00	N/A
								CO	84	AP-42	N/A	N/A	1.97E-01	N/A	8.63E-01	N/A
								SO2	0.60	AP-42	N/A	N/A	1.41E-03	N/A	6.16E-03	N/A
								VOC	5.50	AP-42	N/A	N/A	1.29E-02	N/A	5.65E-02	N/A
								CO2e	120713.10	AP-42	N/A	N/A	283.057	N/A	1239.788	N/A
								Total HAPs	1.89	AP-42	N/A	N/A	4.43E-03	N/A	1.94E-02	N/A
EU18	Blast & Paint Line	EP 18-02	Shot Blaster	Shot Blaster	C1802	S1802	429	Filterable PM	1.23E+00	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35
		SCC: 30300999	tons of steel processed					PM10	1.23E+00	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35
								PM2.5	1.23E+00	Design Grain Loading	100%	99%	527.82	0.31	81.18	1.35

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential (lb/hr)	Controlled Potential	Uncontrolled Potential	Controlled Potential
EU18	Blast & Paint Line	EP 18-03	Plate Painting Operations	Plate Painting	C1803A C1803B	S1803	429	Filterable PM	1.18E-01	SDS	100%	99%	50.76	0.51	222.31	2.22
		SCC:	30300936	tons of material coated				PM10	1.18E-01	SDS	100%	99%	50.76	0.51	222.31	2.22
								PM2.5	1.18E-01	SDS	100%	99%	50.76	0.51	222.31	2.22
								VOC	6.40E-01	SDS	100%	98%	274.46	5.49	1202	24.04
								Total HAPs	1.35E-01	SDS	100%	98%	58.10	1.16	254.48	5.09
EU18	Blast & Paint Line	EP 18-05	Paint System Dryer	N/A	N/A	S1801	3.29E-04	Filterable PM	1.9	AP-42	N/A	N/A	6.26E-04	N/A	2.74E-03	N/A
		SCC:	30390003	tons of material coated	Million cubic feet burned			PM10	7.6	AP-42	N/A	N/A	2.50E-03	N/A	1.10E-02	N/A
								PM2.5	7.6	AP-42	N/A	N/A	2.50E-03	N/A	1.10E-02	N/A
								NOx	100	AP-42	N/A	N/A	3.29E-02	N/A	1.44E-01	N/A
								CO	84	AP-42	N/A	N/A	2.77E-02	N/A	1.21E-01	N/A
								SO2	0.6	AP-42	N/A	N/A	1.98E-04	N/A	8.65E-04	N/A
								VOC	5.50	AP-42	N/A	N/A	1.81E-03	N/A	7.93E-03	N/A
								CO2e	120713.10	AP-42	N/A	N/A	39.748	N/A	174.098	N/A
								Total HAPs	1.89	AP-42	N/A	N/A	6.22E-04	N/A	2.72E-03	N/A

**Section N.2: Stack Information****UTM Zone:**

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter (ft)	Height (ft)	Base Elevation (ft)	Northing (m)	Easting (m)	Flowrate (acfm)	Temperature (°F)	Exit Velocity (ft/sec)
S0304A	EP 03-04A - Steckel Mill Finishing Stand - Scrubber	4	85.00	462.0	575599.56	4206521.19	44,000	120.00	58.36
S0401	EP 04-01 - Shot Blaster	3.5	100.00	462.0	575717.08	4206433.40	34,375	90	59.55
S0601A	EP 06-01A - EAF Flux & Carbon Handling - Baghouse	0.7	50.00	462.0	575222.63	4206477.52	1,200	ambient	57.30
S0605A	EP 06-05A - LMF Alloy Handling - Baghouse	3.3	144.35	462.0	575210.89	4206455.99	1,033	ambient	2.02
S1204	EP 12-04 - Slag Plant Oxy Fuel- Fired Torches - Baghouse	4.7	40.00	459.0	575085.49	4206830.23	60,000	140.00	58.47
S1801	EP 18-01 and EP 18-05 Combustion Emissions	1.0	70.00	462.0	576154.10	4206660.54	2,592	250.00	55.00
S1802	EP 18-02 - B&P Line Shot Blaster	2.0	70.00	462.0	576128.99	4206665.39	12,500	90.00	66.31
S1803	EP 18-03 - B&P Line Painting Operations/RTO	2.5	70.00	462.0	576108.24	4206674.22	13,621	120.00	46.25

<b>Section N.3: Fugitive Information</b>								
<b>UTM Zone:</b>								
Emission Unit #	Emission Unit Name	Process ID	Area Physical Data		Area UTM Coordinates		Area Release Data	
			Length of the X Side (ft)	Length of the Y Side (ft)	Northing (m)	Easting (m)	Release Temperature (°F)	Release Height (ft)
EU06	EAF Flux & Carbon Dump Fugitive Emissions	EP 06-01	3.49	6.98	575217.65	4206466.21	ambient	15.00
EU06	LMF Flux & Carbon Dump Fugitive Emissions	EP 06-03	3.49	6.98	575216.33	4206460.25	ambient	15.00
EU06	LMF Alloy Dump Fugitive Emissions	EP 06-05	3.49	6.98	575232.64	4206497.83	ambient	15.00
EU12	Scrap Cutting	EP 12-04	2.33	7.00	575095.50	4206830.23	ambient	9.84
EU12	Slag Dump/Ball Drop/Tundish Dump	EP 12-01 EP 01-08A	93.34	93.34	575106.77	4206757.63	ambient	8.00
EU01 EU03 EU15	Primary Caster Torch Cut Off Secondary Caster Torch Cut Off Roughing Mill Stand Steckel Mill Finishing Stand Coil Sample Plasma Cutter Coil Tagger Rolling Mill Oxy-Fuel Plate Cutting Torch Rolling Mill Oxy-Fuel Coil Cutting Torch Ingot Grinding Ingot Grinding Oxy-Fuel Cutting Torch	EP 01-06 EP 03-03 EP 03-04 EP 03-06 EP 15-01 EP 01-13 EP 01-14	BOUYLINE	BOUYLINE	575399.889 575736.639	4206605.666 4206530.866	ambient	113.00





APPENDIX B      POTENTIAL TO EMIT CALCULATIONS

**Paint System Preheater**  
EP 18-01

**Nucor Steel Brandenburg**  
Brandenburg, KY

**Inputs**

Description	Value	Units	Notes
Annual Operating Hours	8,760	hrs/yr	
Natural Gas Heating Value	1,020	Btu/scf	1
Rated Heat Capacity	2,391,767	Btu/hr	2
	2.39	MMBtu/hr	2

**Notes:**

1. AP-42 basis for natural gas heating value.
2. Vendor design maximum heat capacity of two burners as 2,391,767 Btu/hr combined.

**Emissions Summary**

Pollutant	Hourly Emission Rate	Annual Emission Rate
	(lb/hr)	(tpy)
Total PM	0.0178210	0.0780560
Filterable PM	0.0044553	0.0195140
PM <sub>10</sub>	0.0178210	0.0780560
PM <sub>2.5</sub>	0.0178210	0.0780560
NO <sub>x</sub>	0.2344870	1.0270530
CO	0.1969691	0.8627245
SO <sub>2</sub>	0.0014069	0.0061623
Lead	1.17E-06	5.14E-06
VOC	0.01	0.06
CO <sub>2e</sub>	283	1,240
Total HAPs	0.00	0.02

**Emission Calculation Equations**

Emission calculations based on lb/million scf of natural gas emission factors:

$$\frac{\text{lb pollutant}}{\text{million scf}} \times \frac{\text{scf}}{1,020 \text{ Btu}} \times \frac{\text{million Btu}}{\text{hr}} = \frac{\text{lb pollutant}}{\text{hr}}$$

$$\frac{\text{lb pollutant}}{\text{hour}} \times \frac{8,760 \text{ hours}}{\text{year}} \times \frac{\text{ton}}{2,000 \text{ lbs}} = \frac{\text{ton pollutant}}{\text{year}}$$

## Emissions Calculations

Pollutant	Emission Factor		Hourly Emission Rate	Annual Emission Rate	Notes
	(lb/10 <sup>6</sup> scf)	(lb/MMBtu)	(lb/hr)	(tpy)	
Total PM	7.6	0.007	0.02	0.08	3,4
Filterable PM	1.9	1.86E-03	4.5E-03	0.02	4
PM <sub>10</sub>	7.6	0.007	0.02	0.08	3,4
PM <sub>2.5</sub>	7.6	0.007	0.02	0.08	3,4
NO <sub>x</sub>	100	0.10	0.23	1.03	5
CO	84	0.08	0.20	0.86	4
SO <sub>2</sub>	0.6	5.9E-04	1.4E-03	0.01	4
Lead	5.00E-04	4.90E-07	1.17E-06	5.14E-06	4
VOC	5.5	0.005	0.01	0.06	4
CO <sub>2</sub>	120,000	117.65	281.38	1,232.46	4
N <sub>2</sub> O	2.2	2.16E-03	0.01	0.02	4
CH <sub>4</sub>	2.3	2.25E-03	0.01	0.02	4
CO <sub>2</sub> e	120,713.10	-	283.06	1,240	6
Benzene	2.10E-03	2.06E-06	4.92E-06	2.16E-05	7
Dichlorobenzene	1.20E-03	1.18E-06	2.81E-06	1.23E-05	7
Formaldehyde	7.50E-02	7.35E-05	1.8E-04	7.7E-04	7
Hexane	1.80E+00	1.76E-03	4.2E-03	0.02	7
Naphthalene	6.10E-04	5.98E-07	1.43E-06	6.27E-06	7
Polycyclic Organic Matter	8.82E-05	8.65E-08	2.07E-07	9.06E-07	7
Toluene	3.40E-03	3.33E-06	7.97E-06	3.49E-05	7
Arsenic	2.00E-04	1.96E-07	4.69E-07	2.05E-06	8
Beryllium	1.20E-05	1.18E-08	2.81E-08	1.23E-07	8
Cadmium	1.10E-03	1.08E-06	2.58E-06	1.13E-05	8
Chromium	1.40E-03	1.37E-06	3.28E-06	1.44E-05	8
Cobalt	8.40E-05	8.24E-08	1.97E-07	8.63E-07	8
Manganese Compounds	3.80E-04	3.73E-07	8.91E-07	3.90E-06	8
Mercury	2.60E-04	2.55E-07	6.10E-07	2.67E-06	8
Nickel	2.10E-03	2.06E-06	4.92E-06	2.16E-05	8
Selenium	2.40E-05	2.35E-08	5.63E-08	2.46E-07	8
Total HAPs	-	1.85E-03	4.4E-03	0.02	

### Notes:

- PM emission factors include condensable and filterable PM. All PM is assumed less than 1 micrometer, as per footnote 'c' to AP-42 Table 1.4-2.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Tables 1.4-1 and 1.4-2.
- Emission Factors are vendor specification for cold air direct-fired burners.
- Global Warming Potentials from 40 CFR 98 Subpart A Table A-1.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Table 1.4-3.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Table 1.4-4.

**Paint System Dryer**  
EP 18-05

**Nucor Steel Brandenburg**  
Brandenburg, KY

**Inputs**

Description	Value	Units	Notes
Annual Operating Hours	8,760	hrs/yr	
Natural Gas Heating Value	1,020	Btu/scf	1
Rated Heat Capacity	335,865	Btu/hr	2
	0.34	MMBtu/hr	2

**Notes:**

1. AP-42 basis for natural gas heating value.
2. Vendor design maximum heat capacity of dryer of 335,865 Btu/hr.

**Emissions Summary**

Pollutant	Hourly Emission Rate	Annual Emission Rate
	(lb/hr)	(tpy)
Total PM	0.0025025	0.0109611
Filterable PM	0.0006256	0.0027403
PM <sub>10</sub>	0.0025025	0.0109611
PM <sub>2.5</sub>	0.0025025	0.0109611
NO <sub>x</sub>	0.0329280	0.1442245
CO	0.0276595	0.1211485
SO <sub>2</sub>	0.0001976	0.0008653
Lead	1.65E-07	7.21E-07
VOC	0.001811	0.007932
CO <sub>2e</sub>	39.748	174.098
Total HAPs	6.22E-04	2.72E-03

**Emission Calculation Equations**

Emission calculations based on lb/million scf of natural gas emission factors:

$$\frac{\text{lb pollutant}}{\text{million scf}} \times \frac{\text{scf}}{1,020 \text{ Btu}} \times \frac{\text{million Btu}}{\text{hr}} = \frac{\text{lb pollutant}}{\text{hr}}$$

$$\frac{\text{lb pollutant}}{\text{hour}} \times \frac{8,760 \text{ hours}}{\text{year}} \times \frac{\text{ton}}{2,000 \text{ lbs}} = \frac{\text{ton pollutant}}{\text{year}}$$

## Emissions Calculations

Pollutant	Emission Factor		Hourly Emission Rate	Annual Emission Rate	Notes
	(lb/10 <sup>6</sup> scf)	(lb/MMBtu)	(lb/hr)	(tpy)	
Total PM	7.6	0.007	2.5E-03	0.01	3,4
Filterable PM	1.9	1.86E-03	6.3E-04	2.7E-03	4
PM <sub>10</sub>	7.6	0.007	2.5E-03	0.01	3,4
PM <sub>2.5</sub>	7.6	0.007	2.5E-03	0.01	3,4
NO <sub>x</sub>	100	0.10	0.03	0.14	5
CO	84	0.08	0.03	0.12	4
SO <sub>2</sub>	0.6	5.9E-04	2.0E-04	8.7E-04	4
Lead	5.00E-04	4.90E-07	1.65E-07	7.21E-07	4
VOC	5.5	0.005	1.8E-03	0.01	4
CO <sub>2</sub>	120,000	117.65	39.51	173.07	4
N <sub>2</sub> O	2.2	2.16E-03	7.2E-04	3.2E-03	4
CH <sub>4</sub>	2.3	2.25E-03	7.6E-04	3.3E-03	4
CO <sub>2</sub> e	120,713.10	-	39.75	174	6
Benzene	2.10E-03	2.06E-06	6.91E-07	3.03E-06	7
Dichlorobenzene	1.20E-03	1.18E-06	3.95E-07	1.73E-06	7
Formaldehyde	7.50E-02	7.35E-05	2.5E-05	1.1E-04	7
Hexane	1.80E+00	1.76E-03	5.9E-04	2.6E-03	7
Naphthalene	6.10E-04	5.98E-07	2.01E-07	8.80E-07	7
Polycyclic Organic Matter	8.82E-05	8.65E-08	2.90E-08	1.27E-07	7
Toluene	3.40E-03	3.33E-06	1.12E-06	4.90E-06	7
Arsenic	2.00E-04	1.96E-07	6.59E-08	2.88E-07	8
Beryllium	1.20E-05	1.18E-08	3.95E-09	1.73E-08	8
Cadmium	1.10E-03	1.08E-06	3.62E-07	1.59E-06	8
Chromium	1.40E-03	1.37E-06	4.61E-07	2.02E-06	8
Cobalt	8.40E-05	8.24E-08	2.77E-08	1.21E-07	8
Manganese Compounds	3.80E-04	3.73E-07	1.25E-07	5.48E-07	8
Mercury	2.60E-04	2.55E-07	8.56E-08	3.75E-07	8
Nickel	2.10E-03	2.06E-06	6.91E-07	3.03E-06	8
Selenium	2.40E-05	2.35E-08	7.90E-09	3.46E-08	8
Total HAPs	-	1.85E-03	6.2E-04	2.7E-03	

### Notes:

- PM emission factors include condensable and filterable PM. All PM is assumed less than 1 micrometer, as per footnote 'c' to AP-42 Table 1.4-2.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Tables 1.4-1 and 1.4-2.
- Emission Factors are vendor specification for cold air direct-fired burners.
- Global Warming Potentials from 40 CFR 98 Subpart A Table A-1.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Table 1.4-3.
- Emission factors from AP-42 Section 1.4 Natural Gas Combustion Table 1.4-4.

## Scrap Cutting Torches

## Nucor Steel Brandenburg Brandenburg, KY

### Inputs

Description	Value	Units	Notes
Annual Operating hours	8,760	hrs	
Maximum Hourly Processing Rate	21	ton/hr	
Maximum Annual Processing Rate	100,000	ton/yr	
LPG Consumption per Torch	160	scf/hr	1
Number of Torches	8	-	
Total LPG Consumption	1,280	scf/hr	2
Total LPG Consumption	0.00128	MMscf/hr	
Total MMBtu Consumption	3.22	MMBtu/hr	3

Notes:

[1] Torch tip specification of 80 to 160 scf/hr propane consumption; conservatively assumes 160 scf/hr.

[2] Conservatively assumes 8 torches continuously operate.

[3] Heat content of propane is 2,516 Btu/scf per U.S. Energy Information Administration, Natural Gas Monthly.

### Total Emission Summary

Pollutant	Hourly Emission Rate	Total Emission Rate
	(lb/hr)	(tons/yr)
Filterable PM	0.864	3.79
PM <sub>10</sub>	0.882	3.86
PM <sub>2.5</sub>	0.882	3.86
NO <sub>x</sub>	0.458	2.00
CO	0.264	1.16
SO <sub>2</sub>	0.053	0.23
Total HAPs	0.096	0.42
CO <sub>2</sub> e	450	1,969

### Emission Calculation Equations

Emission calculations based fume generation rate and metal HAP content of steel:

$$\frac{0.81 \text{ g PM}}{\text{min}} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 8 \text{ torches} \times \frac{1 \text{ lb}}{453.6 \text{ g}} = \frac{0.857 \text{ lb PM}}{1 \text{ hr}}$$

$$\frac{0.81 \text{ g PM}}{\text{min}} \times \text{metal HAP wt\%} \times \frac{60 \text{ min}}{1 \text{ hr}} \times 8 \text{ torches} \times \frac{1 \text{ lb}}{453.6 \text{ g}} = \frac{\text{lb metal HAP}}{\text{hr}}$$

$$\frac{\text{lb pollutant}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{\text{ton}}{2,000 \text{ lb}} = \frac{\text{ton pollutant}}{\text{year}}$$

### Emission Calculations - PM and Metal HAPs

Pollutant	Metal HAP max wt% in Nucor Steel	Emission Factor	Hourly Emission Rate	Annual Emission Rate	Notes
	(wt%)	(g/min)	(lb/hr)	(ton/yr)	
Filterable PM	-	0.81	0.857	3.754	4
PM <sub>10</sub>	-	0.81	0.857	3.754	4
PM <sub>2.5</sub>	-	0.81	0.857	3.754	4
Chromium	5.50%	0.04	0.047	0.206	5,6
Manganese	2.0%	0.02	0.017	0.075	5,6
Nickel	3.65%	0.03	0.031	0.137	5,6
Total HAPs	-	-	0.096	0.419	-

Notes:

[4] Filterable PM/PM<sub>10</sub>/PM<sub>2.5</sub> emission factor based on Fumes and Gases in the Welding Environment, the American Welding Society, dated 01/90.

[5] HAP emission rates based on the HAP content for Nucor Steel, per SDS revised 12/22/2023.

[6] Maximum weight percent of metal in Nucor Steel multiplied by Total PM emission factor.

Emission Calculation Equations

Emission calculations based on lb/million scf of natural gas emission factors

$$\frac{lb \text{ pollutant}}{10^3 \text{ gal}} \times \frac{10^3 \text{ gal propane}}{91.5 \text{ MMBtu}} \times \frac{\text{million Btu}}{hr} = \frac{lb \text{ pollutant}}{hr}$$

$$\frac{lb \text{ pollutant}}{hr} \times \frac{8,760 \text{ hours}}{\text{year}} \times \frac{\text{ton}}{2,000 \text{ lbs}} = \frac{\text{ton pollutant}}{\text{year}}$$

**Emission Calculations - LPG Combustion**

Pollutant	Emission Factor		Hourly Emission Rate	Annual Emission Rate	Notes
	(lb/10 <sup>3</sup> gal)	(lb/MMBtu)*	(lb/hr)	(ton/yr)	
Filterable PM	0.2	0.002	0.007	0.031	7
PM <sub>10</sub>	0.7	0.008	0.025	0.108	7
PM <sub>2.5</sub>	0.7	0.008	0.025	0.108	7
NO <sub>x</sub>	13	0.142	0.458	2.004	7
CO	7.5	0.082	0.264	1.156	7
SO <sub>2</sub>	1.5	0.016	0.053	0.231	8
VOC	0.8	0.009	0.028	0.123	7
CO <sub>2</sub>	12,500	136.6	440	1,927	7
N <sub>2</sub> O	0.9	0.010	0.032	0.139	7
CH <sub>4</sub>	0.2	0.002	0.007	0.031	7
CO <sub>2</sub> e	-	-	450	1,969	9

\* Heat content of propane is 91.5 MMBtu/10<sup>3</sup> gallon for propane per AP-42 Chapter 1.5.

Notes:

[7] Emission factors from AP-42 Section 1.5 LPG Combustion Table 1.5-1; assume Total PM=PM<sub>10</sub>=PM<sub>2.5</sub>.

[8] Emission factors from AP-42 Table 1.5-1 based on sulfur content for propane of 15 grains per 100 scf.

[9] Global Warming Potentials from 40 CFR 98 Subpart A Table A-1.

## Alloy Bunkers

Alloys are dumped by trucks.

## Nucor Steel Brandenburg Brandenburg, KY

### Inputs

Description	Value	Units	Notes
Annual Operating Hours	8,760	hrs/yr	
Raw material Dumped Maximum Hourly	120	tons/hr	1
Raw material Dumped Annually	62,000	tons/yr	1
Average Wind Speed	1.3	mph	2
Material Moisture Content	0.20	%	3
Dump Station Capture Efficiency	75%	%	4

### Notes:

1. Site operational data.
2. Indoor wind speed based on lower bound of range in AP-42 Section 13.2.4.
3. Moisture content for limestone per AP-42 Table 13.2.4-1.
4. Capture efficiency for 3-sided bunker and the surrounding building

### Emissions Summary

Source Description	Pollutant	Average Emission Rate	Annual Emission Rate
		(lb/hr)	(tpy)
Total Alloy Bunkers Fugitive Emissions	Filterable PM	0.31	0.08
	PM <sub>10</sub>	0.15	0.04
	PM <sub>2.5</sub>	0.02	0.01

### Notes:

Per AP-42 (Table 13.2.2-2), PM<sub>30</sub> is assumed equivalent to total suspended particle matter (Filterable PM).

Calculation methodology derived from Section 13.2.4 "Aggregate Handling and Storage Piles," AP-42 (11/06).

### Emission Factor (lb PM/ ton handled)

$$\text{Emission factor (lb / ton)} = k * (0.0032) * \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

where

U = Mean wind speed (mph) for the area <sup>(5)</sup>

M = Material moisture content (%) <sup>(6)</sup>

k = Particle size multiplier <sup>(7)</sup>

Aerodynamic Particle Size Multiplier (k)	
< 30 micrometers	0.74
< 15 micrometers	0.48
< 10 micrometers	0.35
< 5 micrometers	0.20
< 2.5 micrometers	0.053

Notes:

5. Wind speed based on average wind speed for Louisville KY per AP-42 Table 7.1-7.

6. From AP-42 (11/06), Section 13.2.4.2, Table 13.2.4-1

7. From AP-42 (11/06), Section 13.2.4.3

### Particulate Uncaptured Emissions from Dump Station

Transfer Location	Hourly Throughput	Annual Throughput	Emission Factor	Hourly Emissions <sup>(8)</sup>	Annual Emissions <sup>(9)</sup>
	(tons/hr)	(tons/yr)	(lb/ton)	(lb/hr)	(tpy)
PM	120	62,000	0.01032	0.31	0.08
PM <sub>10</sub>	120	62,000	0.00488	0.15	0.04
PM <sub>2.5</sub>	120	62,000	0.00074	0.02	0.01

Notes:

8. Hourly Emissions (ton/hr) = Material Throughput (tons/hr) \* EF (lb PM/ton) \* (1 - Partial Closure Capture Efficiency)

9. Annual Emissions (ton/yr) = Material Throughput (tons/yr) \* EF (lb PM/ton) \* (1 - Partial Closure Capture Efficiency) / 2000 lb/ton



APPENDIX C      CAM PLANS

## Emission Point ID EU 01 – Melt Shop

### I. Background

#### A. Emission Unit

Description: 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 is 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.

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 40 CFR 60.272a(a)(1), 40 CFR 63.10686(b)(1), and 401 KAR 51:017

Emission Limits:

Filterable PM emission limit is 0.0018 gr/dscf; 25.49 lb/hr; 111.64 ton/yr  
Filterable PM<sub>10</sub> + condensable emission limit is 0.0052 gr/dscf; 73.64 lb/hr;  
322.53 ton/yr  
Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0034 gr/dscf; 48.15 lb/hr;  
210.88 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily monitoring of visible emissions;
- ii. Continuous monitoring of the baghouse pressure drop;
- iii. Weekly baghouse inspection; and
- iv. PM emissions during an annual performance test.

### C. Control Technology

The Melt Shop (EU 01) will use a Baghouse (C0101) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Visible Emissions	Pressure Drop	Inspection/Maintenance	Performance Test Results
	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
II. Indicator Range	<p>An excursion is defined as the presence of visible emissions greater than 3% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>BLDS – An excursion is defined as a triboelectric signal greater than the most recent alarm set point established in the BLDS Monitoring Plan.</p>	<p>An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer.</p>	<p>An excursion is defined as failure to perform the weekly inspection during a month when the equipment operated.</p>	<p>An excursion is defined as particulate grain loading greater than 0.0050 gr/dscf measured during a compliance test. An excursion results in a repeated test and triggers a reporting requirement.</p>
III. Performance Criteria				
A. Data Representativeness	Visual inspection logs will be maintained and audited to ensure visible emission	The permittee will comply with the requirements of BLDS – 40 CFR 60.273a(e)	The inspections are performed at the baghouse.	The permittee will comply with the requirements of 40 CFR 60.275a, test methods and procedures

	readings are conducted.			and Appendix M to 40 CFR 51.
B. Verification of Operational Status	Confirmation of records	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Trained personnel to perform observations  BLDS – BLDS Monitoring Plan to be approved by the Administrator	Periodic calibration of pressure gauges	Trained personnel to perform inspections and maintenance	The permittee will comply with Reference Method 5D, 40 CFR 60, Appendix A, and Reference Methods 201A and 202, and 40 CFR 51, Appendix M.
D. Monitoring Frequency	Daily Continuous (BLDS)	Continuous (recorded once every 15 minutes)	Weekly	Annually
IV. Data Collection Procedures	The visible emission observer will be familiar with baghouse operations and be a certified visible emission reader.  BLDS logged electronically	Pressure drop is logged electronically, continuously (once every 15 minutes)	The records are maintained to document the inspections and any required maintenance.	The compliance test results are reported within 45 days of completion of the field work.
Averaging Period	6 minutes	NA	NA	3 runs of 240 minutes

### III. Rational and Justification of Plan

- i. 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.
- ii. 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.
- iii. 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.
- iv. 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.
- v. 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.

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 NSPS Subpart AAa.

## Emission Point ID EP 03-04 – Steckel Mill Finishing Stand Wet Scrubber

### I. Background

#### A. Emission Unit

Description: the Steckel Mill (EP 03-04) is a source of PM emissions as a result of oil and grease consumption and PM emissions generated from the rolling and descaling operations of the Steckel Mill. The Steckel Mill is equipped with an air pollution control system to reduce the potential PM emissions from the rolling and descaling operations. This system includes a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

Identification: Control Device ID C0304

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

##### Emission Limits:

Filterable PM emission limit is 0.005 gr/dscf; 3.72 lb/hr; 16.28 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.005 gr/dscf; 3.28 lb/hr; 14.36 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0025 gr/dscf; 1.40 lb/hr; 6.13 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

##### Monitoring Requirements:

- i. Continuous monitoring of the differential pressure across the scrubber;
- ii. Continuous monitoring of the scrubber liquid flow rate;
- iii. Weekly qualitative visual observation of the opacity of emissions; and
- iv. Monthly operational status inspection of the equipment.

#### C. Control Technology

The Steckel Mill (EP 03-04) will use a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below. The selected performance indicators are continuous measurement of pressure

drop and liquid flow rate, weekly qualitative visual observations for visible emissions, and monthly equipment operational status inspections.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Pressure Drop	Liquid Flow Rate	Opacity	Inspection Program
	Continuous pressure drop across the scrubber	Continuous flow meter to monitor scrubber liquid flow rate	Qualitative visual observation	Visual inspection of the Steckel Mill (EP 03-04), capture system, and Wet Scrubber (C0304)
II. Indicator Range	An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer.	An excursion is defined as a flow rate outside the range defined from the most recent stack test which records the scrubber liquid flow rate or, if none, recommended by the manufacturer.	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 during a week when the equipment operated.	An excursion is defined as failure to perform the monthly inspection during a month when the equipment operated.
III. Performance Criteria				
A. Data Representativeness	Pressure differential will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Liquid Flow Rate will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the scrubber discharge stack.	Inspections are performed on the Steckel Mill (EP 03-04), capture system, and the Wet Scrubber (C0304).
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Periodic calibration of pressure gauges	Periodic calibration of flow meters	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Continuous (recorded once every 15 minutes)	Continuous (recorded once every 15 minutes)	Weekly	Monthly

IV. Data Collection Procedures	Pressure drop for each compartment is logged electronically, continuously (once every 15 minutes)	Scrubber liquid flow rate is logged electronically, continuously (once every 15 minutes)	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA	NA

### III. Rationale and Justification of Plan

The operation of the Steckel Mill Finishing Stand Wet Scrubber system within the ranges specified above plus component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter limits.

## Emission Point ID EP 04-01 – Shot Blaster Baghouse

### I. Background

#### A. Emission Unit

Description: 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 quench 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).

Identification: Control Device ID C0401

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily pressure drop across the baghouses;
- ii. Weekly qualitative visual observation of the opacity of emissions; and
- iii. Monthly operational status inspection of the equipment.

#### C. Control Technology

Fresh air enters the shot blast unit (EP 04-01) through the openings where the plates enter and exit the unit and is exhausted through a ventilating hood to the shot blaster baghouse (C0401).

### II. Monitoring Approach

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

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3
I. Indicator Measurement Approach	Pressure Drop	Opacity	Inspection Program
	Daily pressure drop across the baghouse	Qualitative visual observation	Visual inspection of Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
II. Indicator Range	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer.	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 during a week the equipment operates.	An excursion is defined as failure to perform the monthly inspection during a month the equipment operates.
III. Performance Criteria			
A. Data Representativeness	Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the baghouse discharge stack.	Inspections are performed on the Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Periodic calibration of pressure gauges	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Daily	Weekly	Monthly

IV. Data Collection Procedures	Daily pressure drop across the baghouse logged electronically or in hardcopy format	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA

III. Rationale and Justification of Plan

The operation of the Shot Blaster Baghouse control system within the ranges specified above plus component inspections and maintenance according to manufacturer’s recommendations ensures compliance with the particulate matter limits.

## Emission Point ID EP 18-03 – Blast and Prime Line RTO and Paint Filters

### I. Background

#### a. Emission Unit

Description: An automatic painting system (EP 18-03) within the painting cabinet (EU 18) applies the primer at the specified coating thickness, typically 0.5 to 1 mils. 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 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.

Identification: Control Device ID C1803A and C1803B

#### b. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017, 59:010, 59:225, and 63:020

Emission Limits:

Filterable PM emission limit is 0.51 lb/hr ; 2.24 ton/year

Filterable PM<sub>10</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

VOC emission limit is 5.52 lb/hr; 24.20 ton/year

The most restrictive PM and VOC emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM and VOC limitations.

Monitoring Requirements:

- i. Continuous monitoring and recordkeeping of the combustion temperature of the RTO;
- ii. Capture system monitoring in accordance with the facility's capture system monitoring plan;
- iii. Daily qualitative visual observation of the opacity of emissions when the affected facility is in operation;
- iv. Weekly visual inspection of paint system filter and key control equipment;
- v. Pressure drop across the paint system filter at least once per shift; and
- vi. Monthly operational status inspection of the equipment.

c. Control Technology

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 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 evolved from the painting and drying operations (EP 18-03 and EP 18-05) within the painting cabinet (EU 18).

II. Monitoring Approach

The key elements of the monitoring approach for PM and VOC emissions are presented in the table 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.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I. Indicator Measurement Approach	RTO Combustion Chamber Temperature	Capture System Monitoring	Opacity	RTO and Filter Weekly Visual Inspections	Pressure Drop	Inspection Program
	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.	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

<p>A. Data Representativeness</p>	<p>The RTO combustion chamber temperature is measured. The minimum acceptable accuracy of the meter is <math>\pm 0.75</math> percent of the temperature being monitored in degrees Celsius, or <math>\pm 1</math> °Celsius, whichever is greater.</p>	<p>To be completed upon the completion of a compliance test</p>	<p>Observations are made of the emissions from the RTO stack (EP 18-03)</p>	<p>Inspections are performed on the paint system filter and RTO</p>	<p>Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted.</p>	<p>Inspections are performed on the painting cabinet, capture system, paint filtration system, RTO, and ductwork</p>
<p>B. Verification of Operational Status</p>	<p>Operation in accordance with manufacturer's recommendations</p>	<p>To be completed upon the completion of a compliance test</p>	<p>Confirmation of records</p>	<p>Confirmation of records</p>	<p>Operation in accordance with manufacturer's recommendations</p>	<p>Confirmation of records</p>
<p>C. QA/QC Practices and Criteria</p>	<p>The calibration of the thermocouple will be verified every 3 months. Acceptance criteria: <math>\pm 0.75</math> percent of the temperature being monitored in degrees Celsius, or <math>\pm 1</math> °Celsius, whichever is greater</p>	<p>To be completed upon the completion of a compliance test</p>	<p>Trained personnel perform observations</p>	<p>Trained personnel perform inspections and maintenance</p>	<p>Periodic calibration of pressure gauges</p>	<p>Trained personnel perform inspections and maintenance</p>

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
Averaging Period	3 hours	To be completed upon the completion of a compliance test	NA	NA	NA	NA

### III. Rationale and Justification of Plan

The operation of the Blast and Prime Line RTO and Paint Filters system within the ranges specified above plus component inspections and maintenance according to manufacturer's recommendations ensures compliance with the particulate matter and volatile organic compound limits.



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## Emission Point ID EU 01 – Melt Shop

### I. Background

#### A. Emission Unit

Description: 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 is 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.

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 40 CFR 60.272a(a)(1), 40 CFR 63.10686(b)(1), and 401 KAR 51:017

##### Emission Limits:

Filterable PM emission limit is 0.0018 gr/dscf; 25.49 lb/hr; 111.64 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.0052 gr/dscf; 73.64 lb/hr;  
322.53 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0034 gr/dscf; 48.15 lb/hr;  
210.88 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

##### Monitoring Requirements:

- i. Daily monitoring of visible emissions;
- ii. Continuous monitoring of the baghouse pressure drop;
- iii. Weekly baghouse inspection; and
- iv. PM emissions during an annual performance test.

### C. Control Technology

The Melt Shop (EU 01) will use a Baghouse (C0101) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Visible Emissions	Pressure Drop	Inspection/Maintenance	Performance Test Results
	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
II. Indicator Range	<p>An excursion is defined as the presence of visible emissions greater than 3% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>BLDS – An excursion is defined as a triboelectric signal greater than the most recent alarm set point established in the BLDS Monitoring Plan.</p>	<p>An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer.</p>	<p>An excursion is defined as failure to perform the weekly inspection during a month when the equipment operated.</p>	<p>An excursion is defined as particulate grain loading greater than 0.0050 gr/dscf measured during a compliance test. An excursion results in a repeated test and triggers a reporting requirement.</p>
III. Performance Criteria				
A. Data Representativeness	Visual inspection logs will be maintained and audited to ensure visible emission	The permittee will comply with the requirements of BLDS – 40 CFR 60.273a(e)	The inspections are performed at the baghouse.	The permittee will comply with the requirements of 40 CFR 60.275a, test methods and procedures

	readings are conducted.			and Appendix M to 40 CFR 51.
B. Verification of Operational Status	Confirmation of records	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Trained personnel to perform observations  BLDS – BLDS Monitoring Plan to be approved by the Administrator	Periodic calibration of pressure gauges	Trained personnel to perform inspections and maintenance	The permittee will comply with Reference Method 5D, 40 CFR 60, Appendix A, and Reference Methods 201A and 202, and 40 CFR 51, Appendix M.
D. Monitoring Frequency	Daily Continuous (BLDS)	Continuous (recorded once every 15 minutes)	Weekly	Annually
IV. Data Collection Procedures	The visible emission observer will be familiar with baghouse operations and be a certified visible emission reader.  BLDS logged electronically	Pressure drop is logged electronically, continuously (once every 15 minutes)	The records are maintained to document the inspections and any required maintenance.	The compliance test results are reported within 45 days of completion of the field work.
Averaging Period	6 minutes	NA	NA	3 runs of 240 minutes

### III. Rational and Justification of Plan

- i. 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.
- ii. 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.
- iii. 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.
- iv. Inspection and preventative maintenance was selected as a performance indicator. Qualified maintenance personnel will conduct the inspection and preventative maintenance in accordance with 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.
- v. 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.

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 NSPS Subpart AAa.

## Emission Point ID EP 03-04 – Steckel Mill Finishing Stand Wet Scrubber

### I. Background

#### A. Emission Unit

Description: the Steckel Mill (EP 03-04) is a source of PM emissions as a result of oil and grease consumption and PM emissions generated from the rolling and descaling operations of the Steckel Mill. The Steckel Mill is equipped with an air pollution control system to reduce the potential PM emissions from the rolling and descaling operations. This system includes a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

Identification: Control Device ID C0304

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.005 gr/dscf; 3.72 lb/hr; 16.28 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.005 gr/dscf; 3.28 lb/hr; 14.36 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0025 gr/dscf; 1.40 lb/hr; 6.13 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Continuous monitoring of the differential pressure across the scrubber;
- ii. Continuous monitoring of the scrubber liquid flow rate;
- iii. Weekly qualitative visual observation of the opacity of emissions; and
- iv. Monthly operational status inspection of the equipment.

#### C. Control Technology

The Steckel Mill (EP 03-04) will use a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below. The selected performance indicators are continuous measurement of pressure

drop and liquid flow rate, weekly qualitative visual observations for visible emissions, and monthly equipment operational status inspections.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Pressure Drop	Liquid Flow Rate	Opacity	Inspection Program
	Continuous pressure drop across the scrubber	Continuous flow meter to monitor scrubber liquid flow rate	Qualitative visual observation	Visual inspection of the Steckel Mill (EP 03-04), capture system, and Wet Scrubber (C0304)
II. Indicator Range	An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer (17 – 25 inches H <sub>2</sub> O).	An excursion is defined as a flow rate outside the range defined from the most recent stack test which records the scrubber liquid flow rate or, if none, recommended by the manufacturer (600 – 1,200 gallons per minute).	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 during a week when the equipment operated.	An excursion is defined as failure to perform the monthly inspection during a month when the equipment operated.
III. Performance Criteria				
A. Data Representativeness	Pressure differential will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Liquid Flow Rate will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the scrubber discharge stack.	Inspections are performed on the Steckel Mill (EP 03-04), capture system, and the Wet Scrubber (C0304).
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Annual calibration of pressure gauges	Annual calibration of flow meters	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Continuous (recorded once every 15 minutes)	Continuous (recorded once every 15 minutes)	Weekly	Monthly

IV. Data Collection Procedures	Pressure drop for each compartment is logged electronically, continuously (once every 15 minutes)	Scrubber liquid flow rate is logged electronically, continuously (once every 15 minutes)	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA	NA

### III. Rationale and Justification of Plan

- i. The indicator range for the Steckel Mill Finishing Stand Wet Scrubber pressure differential is 17 – 25 inches H<sub>2</sub>O. The indicator range was selected based on manufacturer specifications. The pressure drop through the wet scrubber is monitored continuously. All excursions will be documented and reported. An indicator range of 17 – 25 inches H<sub>2</sub>O was selected because a pressure differential greater than 25 inches H<sub>2</sub>O 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. The indicator range will be updated to the pressure drop range established during a stack test and will be updated by subsequent stack test results.
- ii. The indicator range for the Steckel Mill Finishing Stand Wet Scrubber recirculation water flow rate is 600 – 1,200 gallons per minute. The indicator range will be measured using a continuous flow meter. All excursions will be documented and reported. An indicator range of 600 – 1,200 gallons per minute was selected because a decrease in flow rate is indicative of inefficient scrubbing of the incoming fumes. The indicator range was also selected based on the facility's permit requirements. The indicator range will be updated to the recirculation water flow rate established during a stack test and will be updated by subsequent stack test results.
- iii. The indicator range for visible emissions is any visible emissions observed from the scrubber 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.
- iv. The indicator range for maintenance and inspection is the observation of visible emissions from the equipment, capture system, or Steckel Mill Finishing Stand Wet Scrubber. If visible emissions from the equipment, capture system, or Steckel Mill Finishing Stand Wet Scrubber are observed, further 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.

## Emission Point ID EP 04-01 – Shot Blaster Baghouse

### I. Background

#### A. Emission Unit

Description: 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).

Identification: Control Device ID C0401

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily pressure drop across the baghouses;
- ii. Weekly qualitative visual observation of the opacity of emissions; and
- iii. Monthly operational status inspection of the equipment.

#### C. Control Technology

Fresh air enters the shot blast unit (EP 04-01) through the openings where the plates enter and exit the unit and is exhausted through a ventilating hood to the shot blaster baghouse (C0401).

### II. Monitoring Approach

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

Table Monitoring Approach

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>	<b>Indicator No. 3</b>
I. Indicator Measurement Approach	Pressure Drop	Opacity	Inspection Program
	Daily pressure drop across the baghouse	Qualitative visual observation	Visual inspection of Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
II. Indicator Range	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer (0 – 6 inches H <sub>2</sub> O).	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 during a week the equipment operates.	An excursion is defined as failure to perform the monthly inspection during a month the equipment operates.
III. Performance Criteria			
A. Data Representativeness	Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the baghouse discharge stack.	Inspections are performed on the Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Annual calibration of pressure gauges	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Daily	Weekly	Monthly

IV. Data Collection Procedures	Daily pressure drop across the baghouse logged electronically or in hardcopy format	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA

III. Rationale and Justification of Plan

- i. The indicator range for the Shot Blaster Baghouse pressure differential is 0 – 6 inches H<sub>2</sub>O. 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<sub>2</sub>O was selected because a pressure differential greater than 6 inches H<sub>2</sub>O 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.
  
- ii. 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.
  
- iii. The indicator range for maintenance and inspection is the observation of visible emissions from the equipment, capture system, or Shot Blaster Baghouse. If visible emissions from the equipment, capture system, or Shot Blaster Baghouse are observed, further 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.

## Emission Point ID EP 18-03 – Blast and Prime Line RTO and Paint Filters

### I. Background

#### a. Emission Unit

Description: An automatic painting system (EP 18-03) within the painting cabinet (EU 18) applies the primer at the specified coating thickness, typically 0.5 to 1 mils. 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.

Identification: Control Device ID C1803A and C1803B

#### b. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017, 59:010, 59:225, and 63:020

Emission Limits:

Filterable PM emission limit is 0.51 lb/hr ; 2.24 ton/year

Filterable PM<sub>10</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

VOC emission limit is 5.52 lb/hr; 24.20 ton/year

The most restrictive PM and VOC emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM and VOC limitations.

Monitoring Requirements:

- i. Continuous monitoring and recordkeeping of the combustion temperature of the RTO;
- ii. Capture system monitoring in accordance with the facility's capture system monitoring plan;
- iii. Daily qualitative visual observation of the opacity of emissions when the affected facility is in operation;
- iv. Weekly visual inspection of paint system filter and key control equipment;
- v. Pressure drop across the paint system filter at least once per shift; and
- vi. Monthly operational status inspection of the equipment.

c. Control Technology

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 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 evolved from the painting and drying operations (EP 18-03 and EP 18-05) within the painting cabinet (EU 18).

II. Monitoring Approach

The key elements of the monitoring approach for PM and VOC emissions are presented in the table 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.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I. Indicator Measurement Approach	RTO Combustion Chamber Temperature	Capture System Monitoring	Opacity	RTO and Filter Weekly Visual Inspections	Pressure Drop	Inspection Program
	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 $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °Celsius, whichever is greater.	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
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 and Criteria	The calibration of the thermocouple will be verified every 3 months. Acceptance criteria: $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °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
Averaging Period	3 hours	To be completed upon the completion of a compliance test	NA	NA	NA	NA

\*Awaiting vendor documentation on pressure differential indicator range

### III. Rationale and Justification of Plan

- i. 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 0 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.
- ii. The rational and justification for the capture system monitoring plan will be completed upon the completion of a compliance test.
- iii. 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.
- iv. The indicator range for maintenance and inspection is the observation of visible equipment damage and visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork. If visible damage or visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork are observed, further 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.

- v. The indicator range for the Blast and Prime Line paint system filter pressure differential is \*. 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 of \* was selected because a pressure differential greater than \* 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.
  
- vi. The indicator range for maintenance and inspection is the observation of visible equipment damage and visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork. If visible damage or visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork are observed, further 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.

## Emission Point ID EU 01 – Melt Shop

### I. Background

#### A. Emission Unit

Description: 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 is 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.

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 40 CFR 60.272a(a)(1), 40 CFR 63.10686(b)(1), and 401 KAR 51:017

Emission Limits:

Filterable PM emission limit is 0.0018 gr/dscf; 25.49 lb/hr; 111.64 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.0052 gr/dscf; 73.64 lb/hr;  
322.53 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0034 gr/dscf; 48.15 lb/hr;  
210.88 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily monitoring of visible emissions;
- ii. Continuous monitoring of the baghouse pressure drop;
- iii. Weekly baghouse inspection; and
- iv. PM emissions during an annual performance test.

### C. Control Technology

The Melt Shop (EU 01) will use a Baghouse (C0101) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Visible Emissions	Pressure Drop	Inspection/Maintenance	Performance Test Results
	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
II. Indicator Range	<p>An excursion is defined as the presence of visible emissions greater than 3% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement.</p> <p>BLDS – An excursion is defined as a triboelectric signal greater than the most recent alarm set point established in the BLDS Monitoring Plan.</p>	<p>An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer.</p>	<p>An excursion is defined as failure to perform the weekly inspection during a month when the equipment operated.</p>	<p>An excursion is defined as particulate grain loading greater than 0.0050 gr/dscf measured during a compliance test. An excursion results in a repeated test and triggers a reporting requirement.</p>
III. Performance Criteria				
A. Data Representativeness	Visual inspection logs will be maintained and audited to ensure visible emission	The permittee will comply with the requirements of BLDS – 40 CFR 60.273a(e)	The inspections are performed at the baghouse.	The permittee will comply with the requirements of 40 CFR 60.275a, test methods and procedures

	readings are conducted.			and Appendix M to 40 CFR 51.
B. Verification of Operational Status	Confirmation of records	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Trained personnel to perform observations  BLDS – BLDS Monitoring Plan to be approved by the Administrator	Periodic calibration of pressure gauges	Trained personnel to perform inspections and maintenance	The permittee will comply with Reference Method 5D, 40 CFR 60, Appendix A, and Reference Methods 201A and 202, and 40 CFR 51, Appendix M.
D. Monitoring Frequency	Daily Continuous (BLDS)	Continuous (recorded once every 15 minutes)	Weekly	Annually
IV. Data Collection Procedures	The visible emission observer will be familiar with baghouse operations and be a certified visible emission reader.  BLDS logged electronically	Pressure drop is logged electronically, continuously (once every 15 minutes)	The records are maintained to document the inspections and any required maintenance.	The compliance test results are reported within 45 days of completion of the field work.
Averaging Period	6 minutes	NA	NA	3 runs of 240 minutes

### III. Rational and Justification of Plan

- i. 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.
- ii. 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.
- iii. 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.
- iv. Inspection and preventative maintenance was selected as a performance indicator. Qualified maintenance personnel will conduct the inspection and preventative maintenance in accordance with 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.
- v. 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.

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 NSPS Subpart AAa.

## Emission Point ID EP 03-04 – Steckel Mill Finishing Stand Wet Scrubber

### I. Background

#### A. Emission Unit

Description: the Steckel Mill (EP 03-04) is a source of PM emissions as a result of oil and grease consumption and PM emissions generated from the rolling and descaling operations of the Steckel Mill. The Steckel Mill is equipped with an air pollution control system to reduce the potential PM emissions from the rolling and descaling operations. This system includes a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

Identification: Control Device ID C0304

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.005 gr/dscf; 3.72 lb/hr; 16.28 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.005 gr/dscf; 3.28 lb/hr; 14.36 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.0025 gr/dscf; 1.40 lb/hr; 6.13 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Continuous monitoring of the differential pressure across the scrubber;
- ii. Continuous monitoring of the scrubber liquid flow rate;
- iii. Weekly qualitative visual observation of the opacity of emissions; and
- iv. Monthly operational status inspection of the equipment.

#### C. Control Technology

The Steckel Mill (EP 03-04) will use a venturi wet scrubber (C0304) for PM control prior to discharging to the atmosphere via a stack.

### II. Monitoring Approach

The key elements of the monitoring approach for PM emissions are presented in the table below. The selected performance indicators are continuous measurement of pressure

drop and liquid flow rate, weekly qualitative visual observations for visible emissions, and monthly equipment operational status inspections.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator Measurement Approach	Pressure Drop	Liquid Flow Rate	Opacity	Inspection Program
	Continuous pressure drop across the scrubber	Continuous flow meter to monitor scrubber liquid flow rate	Qualitative visual observation	Visual inspection of the Steckel Mill (EP 03-04), capture system, and Wet Scrubber (C0304)
II. Indicator Range	An excursion is defined as a pressure differential outside the range defined from the most recent stack test which records the pressure drop or, if none, recommended by the manufacturer (17 – 25 inches H <sub>2</sub> O).	An excursion is defined as a flow rate outside the range defined from the most recent stack test which records the scrubber liquid flow rate or, if none, recommended by the manufacturer (600 – 1,200 gallons per minute).	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 during a week when the equipment operated.	An excursion is defined as failure to perform the monthly inspection during a month when the equipment operated.
III. Performance Criteria				
A. Data Representativeness	Pressure differential will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Liquid Flow Rate will be monitored continuously and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the scrubber discharge stack.	Inspections are performed on the Steckel Mill (EP 03-04), capture system, and the Wet Scrubber (C0304).
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Annual calibration of pressure gauges	Annual calibration of flow meters	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Continuous (recorded once every 15 minutes)	Continuous (recorded once every 15 minutes)	Weekly	Monthly

IV. Data Collection Procedures	Pressure drop for each compartment is logged electronically, continuously (once every 15 minutes)	Scrubber liquid flow rate is logged electronically, continuously (once every 15 minutes)	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA	NA

### III. Rationale and Justification of Plan

- i. The indicator range for the Steckel Mill Finishing Stand Wet Scrubber pressure differential is 17 – 25 inches H<sub>2</sub>O. The indicator range was selected based on manufacturer specifications. The pressure drop through the wet scrubber is monitored continuously. All excursions will be documented and reported. An indicator range of 17 – 25 inches H<sub>2</sub>O was selected because a pressure differential greater than 25 inches H<sub>2</sub>O 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. The indicator range will be updated to the pressure drop range established during a stack test and will be updated by subsequent stack test results.
- ii. The indicator range for the Steckel Mill Finishing Stand Wet Scrubber recirculation water flow rate is 600 – 1,200 gallons per minute. The indicator range will be measured using a continuous flow meter. All excursions will be documented and reported. An indicator range of 600 – 1,200 gallons per minute was selected because a decrease in flow rate is indicative of inefficient scrubbing of the incoming fumes. The indicator range was also selected based on the facility's permit requirements. The indicator range will be updated to the recirculation water flow rate established during a stack test and will be updated by subsequent stack test results.
- iii. The indicator range for visible emissions is any visible emissions observed from the scrubber 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.
- iv. The indicator range for maintenance and inspection is the observation of visible emissions from the equipment, capture system, or Steckel Mill Finishing Stand Wet Scrubber. If visible emissions from the equipment, capture system, or Steckel Mill Finishing Stand Wet Scrubber are observed, further 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.

## Emission Point ID EP 04-01 – Shot Blaster Baghouse

### I. Background

#### A. Emission Unit

Description: 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).

Identification: Control Device ID C0401

#### B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017 and 59:010

Emission Limits:

Filterable PM emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>10</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.003 gr/dscf; 0.85 lb/hr; 3.72 ton/yr

The most restrictive PM emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM limitations.

Monitoring Requirements:

- i. Daily pressure drop across the baghouses;
- ii. Weekly qualitative visual observation of the opacity of emissions; and
- iii. Monthly operational status inspection of the equipment.

#### C. Control Technology

Fresh air enters the shot blast unit (EP 04-01) through the openings where the plates enter and exit the unit and is exhausted through a ventilating hood to the shot blaster baghouse (C0401).

### II. Monitoring Approach

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

Table Monitoring Approach

<b>Parameter</b>	<b>Indicator No. 1</b>	<b>Indicator No. 2</b>	<b>Indicator No. 3</b>
I. Indicator Measurement Approach	Pressure Drop	Opacity	Inspection Program
	Daily pressure drop across the baghouse	Qualitative visual observation	Visual inspection of Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
II. Indicator Range	An excursion is defined as a pressure drop outside the range recommended by the Baghouse manufacturer (0 – 6 inches H <sub>2</sub> O).	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 during a week the equipment operates.	An excursion is defined as failure to perform the monthly inspection during a month the equipment operates.
III. Performance Criteria			
A. Data Representativeness	Pressure differential will be monitored daily and recorded. Logs will be audited to ensure readings are conducted.	Observations are made of the emissions from the baghouse discharge stack.	Inspections are performed on the Shot Blaster (EP 04-01), capture system, and Baghouse (C0401)
B. Verification of Operational Status	Operation in accordance with manufacturer's recommendations	Confirmation of records	Confirmation of records
C. QA/QC Practices and Criteria	Annual calibration of pressure gauges	Trained personnel to perform observations	Trained personnel perform inspections and maintenance
D. Monitoring Frequency	Daily	Weekly	Monthly

IV. Data Collection Procedures	Daily pressure drop across the baghouse logged electronically or in hardcopy format	Weekly VE readings logged electronically or in hardcopy format	Results of inspections and maintenance activities performed are logged electronically or in hardcopy format
Averaging Period	NA	NA	NA

III. Rationale and Justification of Plan

- i. The indicator range for the Shot Blaster Baghouse pressure differential is 0 – 6 inches H<sub>2</sub>O. 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<sub>2</sub>O was selected because a pressure differential greater than 6 inches H<sub>2</sub>O 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.
  
- ii. 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.
  
- iii. The indicator range for maintenance and inspection is the observation of visible emissions from the equipment, capture system, or Shot Blaster Baghouse. If visible emissions from the equipment, capture system, or Shot Blaster Baghouse are observed, further 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.

## Emission Point ID EP 18-03 – Blast and Prime Line RTO and Paint Filters

### I. Background

#### a. Emission Unit

Description: An automatic painting system (EP 18-03) within the painting cabinet (EU 18) applies the primer at the specified coating thickness, typically 0.5 to 1 mils. 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.

Identification: Control Device ID C1803A and C1803B

#### b. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation: 401 KAR 51:017, 59:010, 59:225, and 63:020

Emission Limits:

Filterable PM emission limit is 0.51 lb/hr ; 2.24 ton/year

Filterable PM<sub>10</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

Filterable PM<sub>2.5</sub> + condensable emission limit is 0.53 lb/hr; 2.30 ton/year

VOC emission limit is 5.52 lb/hr; 24.20 ton/year

The most restrictive PM and VOC emission limits are listed above. Compliance with these limits will result in compliance with less restrictive PM and VOC limitations.

Monitoring Requirements:

- i. Continuous monitoring and recordkeeping of the combustion temperature of the RTO;
- ii. Capture system monitoring in accordance with the facility's capture system monitoring plan;
- iii. Daily qualitative visual observation of the opacity of emissions when the affected facility is in operation;
- iv. Weekly visual inspection of paint system filter and key control equipment;
- v. Pressure drop across the paint system filter at least once per shift; and
- vi. Monthly operational status inspection of the equipment.

c. Control Technology

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 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 evolved from the painting and drying operations (EP 18-03 and EP 18-05) within the painting cabinet (EU 18).

II. Monitoring Approach

The key elements of the monitoring approach for PM and VOC emissions are presented in the table 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.

Table Monitoring Approach

Parameter	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4	Indicator No. 5	Indicator No. 6
I. Indicator Measurement Approach	RTO Combustion Chamber Temperature	Capture System Monitoring	Opacity	RTO and Filter Weekly Visual Inspections	Pressure Drop	Inspection Program
	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 $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °Celsius, whichever is greater.	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
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 and Criteria	The calibration of the thermocouple will be verified every 3 months. Acceptance criteria: $\pm 0.75$ percent of the temperature being monitored in degrees Celsius, or $\pm 1$ °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
Averaging Period	3 hours	To be completed upon the completion of a compliance test	NA	NA	NA	NA

\*Awaiting vendor documentation on pressure differential indicator range

### III. Rationale and Justification of Plan

- i. 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 0 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.
- ii. The rationale and justification for the capture system monitoring plan will be completed upon the completion of a compliance test.
- iii. 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.
- iv. The indicator range for maintenance and inspection is the observation of visible equipment damage and visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork. If visible damage or visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork are observed, further 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.

- v. The indicator range for the Blast and Prime Line paint system filter pressure differential is \*. 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 of \* was selected because a pressure differential greater than \* 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.
  
- vi. The indicator range for maintenance and inspection is the observation of visible equipment damage and visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork. If visible damage or visible emissions from the painting cabinet, capture system, paint filtration system, RTO, and ductwork are observed, further 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.

**Inputs**

Description	Value	Units	Notes
Annual Operating Hours	8,760	hrs/yr	
Maximum Hourly Processing Rate	429	tons/hr	
Maximum Annual Processing Rate	132,000	tons/yr	
Total Baghouse Exhaust Flow Rate	12,000	dscfm	1
Dust Collector System Capture Efficiency	99.5%	%	1
Dust Collector System Control Efficiency	99.0%	%	1

**Notes:**

- Total baghouse air flow rate based vendor specification for enclosed shot blaster design.

**Emission calculations:**

$$\frac{\text{gr pollutant}}{\text{dry std ft}^3} \times \frac{\text{dry std ft}^3}{\text{min}} \times \frac{60 \text{ min}}{\text{hour}} \times \frac{\text{lb}}{7,000 \text{ gr}} = \frac{\text{lb pollutant}}{\text{hour}}$$

$$\frac{\text{lb pollutant}}{\text{hour}} \times \frac{8,760 \text{ hour}}{\text{year}} \times \frac{\text{ton}}{2,000 \text{ lb}} = \frac{\text{ton pollutant}}{\text{year}}$$

**Emission Calculations**

Pollutant	Emission Factor	Hourly Emission Rate	Annual Emission Rate	Uncontrolled Emission Factor	Uncontrolled Hourly Emission Rate	Uncontrolled Annual Emission Rate	Notes
	(gr/dscf)	(lb/hr)	(tpy)	(lb/ton)	(lb/hr)	(tpy)	
Filterable PM	0.003	0.31	1.35	1.23	527.82	81.18	2
PM <sub>10</sub>	0.003	0.31	1.35	1.23	527.82	81.18	2
PM <sub>2.5</sub>	0.003	0.31	1.35	1.23	527.82	81.18	2

**Notes:**

- BACT baghouse grain loading factor.
- South Coast Air Quality Management District (AQMD), Annual Emissions Reporting, Abrasive Blasting Operations, Dec. 2014.

**HAP Emissions:**

Pollutant	PM Hourly Emission Rate	PM Annual Emission Rate	Concentration <sup>(3)</sup>	Hourly Emission Rate	Annual Emission Rate
	(lb/hr)	(tpy)	(%)	(lb/hr)	(tpy)
Manganese Oxide	0.309	1.35	1.59%	4.91E-03	2.15E-02
Chromium	0.309	1.35	1.030%	3.18E-03	1.39E-02
Nickel	0.309	1.35	0.487%	1.50E-03	6.58E-03
Arsenic	0.309	1.35	0.017%	5.31E-05	2.32E-04

- HAP emission rates based on the HAP content for Nucor Steel for all metal HAPs greater than or equal to 0.01% by weight.