**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**

TO: Interested Parties / Applicant

DATE: April 21, 2011

RE: Nucor Steel / 107-29903-00038

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

# Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.



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Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNTV-PMOD.doc 3/27/08

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mr. David Sulc
Nucor Steel
4357 South Nucor Road
Crawfordsville, Indiana 47933

April21,2011

Re:107-29903-00038
Significant Permit Modification to:
Part 70 Operating Permit (TV 107-7172-00038)

Dear Mr. Sulc:

Nucor Steel was issued Part 70 operating permit T107-7172-00038 on December 29, 2006 for a steel mini-mill. IDEM, OAQ has reviewed a modification application submitted by Nucor Steel on October 7, 2010. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification involves incorporating the source modification permitted in SSM No.107-29766-00038 for the following activities at the EU-10 Slag Operation:

(a) Approved in 2011 for modification of the existing Slag operation, EU-10 by adding two (2) conveyors, identified as TSP-1 and TSP-5, replacement Screen identified as TSP-2 rated at 341 tons/hour, addition of a magnetic separator to a new conveyor belt, exiting the Grizzly and increase the Grizzly's capacity from 204 tons/hour to 305 tons/hour.

The existing screening process, TSP-8, consisting of three (3) screeners with a total rated capacity of 305 tons/hr will be increased to 447 tons/hr. The screened material will be conveyed into the remaining permitted EU10 operation which will increase utilization due to the increase in capacity of TSP-8.

One (1) crusher, TSP-6 with a maximum throughput rate of 100 tons per hour, approved in 2010 for construction and approved in 2011 to increase its capacity to 305 tons per hour.

(b) Blend Plant, approved in 2011 for construction, with a maximum rated capacity of 305 tons per hour, which includes front end loaders identified as BP-1 and conveying system identified as BP-2, with fifty (50) slag storage piles. The Blend Plant will further process the various materials streams from the existing Slag Operation EU-10 to produce various blends of slag products. The Blend Plant will process any slag material that is not processed by Melt Solutions, the temporary screening plant or that is processed as slag chips.

(c) Temporary Screening Plant, approved in 2011 for construction, with maximum rated capacity of 60 tons per hour, powered by a 97 HP diesel generator, TSP-3. This screening plant will further screen the slag product from EU-10 to a smaller size for special applications. When this screen plant is not in operation this material will go to the Blend Plant.

(d) One (1) Coil and Scrap Cutting Operation, identified as CC-1, with particulate emissions controlled by a baghouse, utilizing one (1) 11 million British thermal units per hour (MMBtu/hr) torch unit to cut the coils and scrap, approved in 2011 for construction,

The following modification which was permitted on June 25, 2010 in SSM No. 107-29010-00038 has been aggregated in this proposed modification SSM No. 107-29766-00038 since the projects are related:

(a) Additional B-Scrap Beneficiation process to be operated by Melt Solution, LLC with the following emission units:

(1) Material handling process with one (1) front end-loader, identified as BSBP-1, with a maximum throughput rate of 100 tons per hour;

(2) Two (2) conveyor belts with magnetic separator, identified as BSBP-2, with a maximum throughput rate of 100 tons per hour;

(3) One (1) jaw crusher, identified as BSBP-3, with a maximum throughput rate of 100 tons per hour;

(4) One (1) screener, identified as BSBP-4, with a maximum throughput rate of 100 tons per hour;

(5) One (1) 425 Brake Horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5.

This process involves further processing of the finished product from the existing Slag Processing, EU-10. However, it will not increase the slag production. No operations at the plant will be affected by the B-Scrap Beneficiation process.

All other conditions of the permit shall remain unchanged and in effect. Please find attached the entire Part 70 Operating Permit as modified.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

for

Donald F. Robin, P.E., Section Chief
Permits Branch
Office of Air Quality

Attachments
APD
cc: Montgomery County
Montgomery County Health Department
Compliance and Enforcement Branch
Permit Administration Support Section

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## PART 70 OPERATING PERMIT
## OFFICE OF AIR QUALITY

## Nucor Steel
## 4537 South Nucor Road
## Crawfordsville, Indiana 47933

(herein known as the Permittee) is hereby authorized to construct subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this Permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This approval is issued in accordance with 326 IAC 2, and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

| Operation Permit No. 107-7172-00038 | |
|---|---|
| Issued by:<br>Nisha Sizemore, Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: December 29, 2006<br><br>Expiration Date: December 29, 2011 |

First Administrative Amendment No. 107-24009-00038, issued on January 26, 2007;
First Significant Permit Modification No. 107-24022-00038, issued on April 20, 2007,
Second Significant Permit Modification No. 107-24284-00038, issued on August 8, 2007;
Third Significant Permit Modification No. 107-24699-00038, issued on January 2, 2008;
Second Administrative Amendment No. 107-24009-00038, issued on April 4, 2008;
Third Administrative Amendment No. 107-26849-00038, issued on October 10, 2008;
Fourth Administrative Amendment No. 107-26819-00038, issued on October 10, 2008;
Fourth Significant Permit Modification No. 107-27427-00038, issued on May 19, 2009;
Fifth Significant Permit Modification No. 107-26659-00038, issued on February 22, 2010;
Sixth Significant Permit Modification No. 107-29064-00038, issued on July 13, 2010; and
Fifth Administrative Amendment No. 107-29433-00038, issued on September 19, 2010.

| Seventh Significant Permit Modification No. 107-29903-00038 | |
|---|---|
| Issued by:<br>for<br>Donald F. Robin, P.E., Section Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: April 21, 2011<br><br>Expiration Date: December 29, 2011 |

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D.17.1 Reversing and Tempering (R/T) Mill PSD BACT [326 IAC 2-2]
D.17.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.17.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements [326 IAC 2-1.1-11]**
D.17.4 Mist Eliminators [326 IAC 2-2]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.17.5 Record Keeping Requirements
D.17.6 Reporting Requirements

**D.18 FACILITY OPERATION CONDITIONS - Alkaline Cleaning Station**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.18.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.18.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements [326 IAC 2-1.1-11]**
D.18.3 Mist Eliminators [326 IAC 2-2]

**D.19 FACILITY OPERATION CONDITIONS - Annealing Furnaces**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.19.1 Annealing Furnace PSD BACT [326 IAC 2-2]
D.19.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.19.3 PSD Limit [326 IAC 2-2]

Compliance Determination Requirements [326 IAC 2-1.1-11]
D.19.4 Vendor Certification

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.19.5 Record Keeping Requirements
D.19.6 Reporting Requirements

**D.20 FACILITY OPERATION CONDITIONS - Quality Control/Rewind Inspection Line**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.20.1 Particulate [326 IAC 6-3-2]

**D.21 FACILITY OPERATION CONDITIONS - Acid Regeneration**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.21.1 Acid Regeneration PSD BACT [326 IAC 2-2]
D.21.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.21.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements [326 IAC 2-1.1-11]**
D.21.4 Scrubber Operation
D.21.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.21.6 Scrubber Monitoring
D.21.7 Scrubber Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.21.8 Record Keeping Requirements

**D.22 FACILITY OPERATION CONDITIONS - Galvanizing Line**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.22.1 Nitrogen Oxides (NOx) – PSD BACT [326 IAC 2-2-3]
D.22.2 Particulate Matter (PM/PM-10) PSD BACT Limits [326 IAC 2-2-3]
D.22.3 Carbon Monoxide (CO) – PSD BACT [326 IAC 2-2-3]
D.22.4 Volatile Organic Compounds (VOC) – PSD BACT [326 IAC 2-2-3]
D.22.5 Ammonia Limitations [326 IAC 2-1.1-5]

D.22.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.22.7 Nitrogen Oxides (NOx) [326 IAC 2-2-3]
D.22.8 Oxides of Nitrogen NOx (SCR operation) [326 IAC 2-2]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.22.9 Nitrogen Oxides (NOx) Emissions Monitoring [326 IAC 3-5] [326 IAC 7-2-1(g)]

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**
D.22.10 Record Keeping Requirements
D.22.11 Reporting Requirements

**D.23 FACILITY OPERATION CONDITIONS - Welding**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.23.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

**D.24 FACILITY OPERATION CONDITIONS - Miscellaneous Shears, Side Trimmers, and Scrap Cutting**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.24.1 Particulate [326 IAC 6-3-2]

**D.25 FACILITY OPERATION CONDITIONS - Hot Strip Mill and Tunnel Furnace System**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.25.1 Hot Strip Mill PSD BACT [326 IAC 2-2]
D.25.2 Tunnel Furnace System PSD BACT [326 IAC 2-2
D.25.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

**D.26 FACILITY OPERATION CONDITIONS - Annealing Furnaces**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.26.1 Nitrogen Oxides (NOx) [326 IAC 2-7-5]
D.26.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.26.3 Record Keeping Requirements
D.26.4 Reporting Requirements

**D.27 FACILITY OPERATION CONDITIONS - Degreasing**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.27.1 Cold Cleaner Operation [326 IAC 8-3-2]

**D.28 FACILITY OPERATION CONDITIONS - Material Transfer Station**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.28.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.28.2 Particulate Control Equipment Operation [326 IAC 2-2]

**Compliance Determination Requirements**
D.28.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]
D.28.4 Particulate Control

**D.29 FACILITY OPERATION CONDITIONS - Electric Arc Furnaces, Ladle Metallurgical Furnaces, Argon Oxygen Decarburization (AOD) Vessels, Desulfurization, Continuous Casters, EAF Dust Treatment Facility**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.29.1 Meltshop Baghouses PSD BACT [326 IAC 2-2]
D.29.2 Operational Flexibility [326 IAC 2-2]
D.29.3 Meltshop PSD BACT for Metals [326 IAC 2-2]
D.29.4 Meltshop EAF Dust and Alloy Handling/Treatment System PM and Opacity PSD BACT [326 IAC 2-2]
D.29.5 Ladle Dryers PSD BACT [326 IAC 2-2]
D.29.6 Ladle Preheaters PSD BACT [326 IAC 2-2]
D.29.7 Tundish Dryout Station (TD #1) PSD BACT [326 IAC 2-2]
D.29.8 PSD Limit [326 IAC 2-2]
D.29.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements [326 IAC 2-1.1-11]**
D.29.10 Meltshop EAF PSD BACT [326 IAC 2-2]
D.29.11 Meltshop EAF Dust Handling System and Dust Treatment System PSD BACT [326 IAC 2-2]
D.29.12 Particulate Control Equipment Operation [326 IAC 2-2]
D.29.13 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]
D.29.14 CO, SO2, and NOx Continuous Emission Rate Monitoring Requirement [326 IAC 2-2] [326 IAC 3-5]
D.29.15 Visible Emissions

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**
D.29.16 Maintenance of CEMS [326 IAC 2-7-5(3)(A)(iii)]
D.29.17 Bag Leak Detection System (BLDS) [40 CFR 60.13(i)(1)]
D.29.18 Scrubber Parametric Monitoring [326 IAC 2-7-5(3)(A)(iii)] [326 IAC 2-7-5(d)]
D.29.19 Scrubber Detection [326 IAC 2-7-5] [326 IAC 2-7-6]
D.29.20 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.29.21 Record Keeping Requirements
D.29.22 Reporting Requirements [326 IAC 2-1.1-11]

**D.30 FACILITY OPERATION CONDITIONS** - ACTIVITIES – MELTSHOP

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.30.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2

**D.31 FACILITY OPERATION CONDITIONS - NuPro Steel LLC Operations**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.31.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.31.2 PM and PM10/PM2.5 Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]
D.31.3 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

D.31.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**
D.31.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]
D.31.6 Particulate Control
D.31.7 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]
D.31.8 Baghouse Parametric Monitoring
D.31.9 Broken or Failed Bag Detection

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.31.10 Record Keeping Requirements

**SECTION D.32 FACILITY OPERATION CONDITIONS - MELT SOLUTION, LLC**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.32.1 Prevention of Significant Deterioration (PSD) Minor Limit for PM, PM10 and PM2.5 Emissions [326 IAC 2-2]
D.32.2 Prevention of Significant Deterioration (PSD) Minor Limit for Nitrogen Oxides (NOx) Emissions [326 IAC 2-2]
D.32.3 Particulate Emissions Limitations [326 IAC 6-3-2]

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**
D.32.4 Record Keeping Requirements
D.32.5 Reporting Requirements

**SECTION E.1 FACILITY OPERATION CONDITIONS - BOILERS**

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR Part 60, Subpart A]
E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

**SECTION E.2 FACILITY OPERATION CONDITIONS - Pickling, and Acid Regeneration**

E.2.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E2.2 National Emissions Standards for Hazardous Air Pollutants for Steel Pickling-HCl Process

**SECTION E.3 FACILITY OPERATION CONDITIONS - EAFS, AOD and EAF Dust Treatment**

E.3.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR Part 60, Subpart A]
E.3.2 New Source Performance Standards for Steel Plants: Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983 [40 CFR Part 60, Subpart AAa]

Certification
Emergency Occurrence Report
Semi-Annual Natural Gas Fired Boiler Certification
Part 70 Quarterly Reports
Quarterly Deviation and Compliance Monitoring Report
Attachment A Fugitive Dust Control Plan

## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary steel mini-mill.

| | |
|---|---|
| Source Address: | 4537 South Nucor Road, Crawfordsville, Indiana 47933 |
| General Source Phone Number: | (765) 364-1323 |
| SIC Code: | 3312 |
| County Location: | Montgomery |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD Rules<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Source Categories |

### A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This steel mini-mill consists of a source with on-site contractors:

(a) Nucor Steel, the primary operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(b) NuPro Steel, LLC- Plant ID 107-00046, own by Nucor Corporation, is located at 3560 South Nucor Road, Crawfordsville, Indiana 47933;

(c) Whitesville Mill Processing, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(d) Linde Gases, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(e) Heritage Environmental Services, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933; and

(f) Melt Solution, LLC, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933.

One combined Part 70 permit will be issued to Nucor Steel, Whitesville Mill Processing, LINDE Gases, Heritage Environmental Services and Melt Solution, LLC. The plant ID for the combined source is 107-00038.

### A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

**D.1 – CASTRIP – VACUUM DEGASSER AND FLARE**

(a) One (1) vacuum degasser with process gas lances, identified as V #1, constructed in 2004, to be modified in 2006, a maximum capacity of 270 tons of steel/hour, emissions controlled by a closed flare, and exhausting to Stack 500. This vacuum degasser removes entrained gases from the steel. Desulfurization and/or decarburization may also

occur during the degassing process. The enclosed flare burner has a maximum heat input capacity of 2 MMBtu/hour, uses natural gas as its primary fuel with propane as back up fuel, and operates with a minimum temperature of 1,400 $^{o}$F. The flare only operates when the vacuum degasser is under negative pressure (i.e., when CO must be controlled).

**D.2 – CASTRIP – LOW NOx BOILER**

(b) One (1) natural gas fueled low-$NO_x$ boiler, identified as Boiler ID No. 501, constructed in 2004, a heat input capacity of 71.04 MMBtu/hour, utilizing low-NOx burners, and exhausting to Stack 501. This boiler provides steam to the vacuum degasser. Propane will be used as back up fuel.

Under 40 CFR Part 60, Subpart Dc, this unit is considered a steam generating unit.

**D.3 – CASTRIP – PREHEATERS, DRYERS, AND ALLOY UNLOADING**

(c) One (1) natural gas fueled ladle preheater, identified as LP-3, constructed in 2004, to be modified in 2006, with a heat input capacity of 12 MMBtu/hour utilizing low NOx burners, emissions uncontrolled, and exhausting to a roof monitor (S-21, also identified as 105,106). Propane will be used as back up fuel.

(d) Two (2) natural gas-fired ladle preheaters, identified as LP-1 and LP-2, each constructed in 2002, to be modified in 2007, with a heat input capacity of 12 MMBtu/hour each, utilizing low-NOx burners, and the capability to utilize propane as a backup fuel. The preheaters exhaust to roof monitor S-21.

(e) Two (2) natural gas-fired tundish preheaters, identified as TP-1 and TP-2, constructed in 2002, to be modified in 2006, with a heat input capacity of 10 MMBtu per hour each, utilizing oxy-fuel burners, and have the capability to utilize propane as a backup fuel. Emissions exhaust to LMS baghouse stack S-20.

(f) Two (2) natural gas-fired tundish nozzle preheaters identified as TNP-1 and TNP-2, to be modified in 2006. Each tundish nozzle preheater shall be equipped with low-NOx burners, shall not exceed a maximum heat input rate of 2 MMBtu per hour, and has the capability to utilize propane as a backup fuel. Combustion emissions exhaust to the LMS baghouse stack identified as S-20.

(g) Three (3) natural gas-fired tundish dryers, identified as TD-1, TD-2, and TD-3, constructed in 2002, to be modified in 2006, with a maximum heat input capacity of 4 MMBtu per hour, 3 MMBtu per hour, and 1 MMBtu per hour, respectively, utilizing low-NOx burners, and having the capability to utilize propane as a backup fuel. Emissions exhaust to roof monitor S-21.

(h) Two (2) natural gas-fired transition piece preheaters, identified as TPP-3 and TPP-4, and two (2) natural gas-fired transition piece dryers, identified as TPD-1 and TPD-2, constructed in 2002, to be modified in 2006. The two (2) transition piece preheaters have a heat input capacity of 2 MMBtu per hour each for a combined total capacity of 4.0 MMBtu per hour, the two (2) transition piece dryers have heat input capacity of 0.15 MMBtu per hour each, utilizing low-NOx burners. The preheaters exhaust to baghouse stack S-20. The dryers exhaust to roof monitor S-21. The preheaters are used in the tundish operation located on the caster deck. The transition piece preheaters and transition piece dryers utilize propane as a backup fuel.

(i) Associated VTD alloy unloading, storage and feed systems, identified as AU-2, controlled by baghouses AU-2b and AU-2c, constructed in 2005, approved for modification in 2008, and consisting of:

(1) One (1) alloy truck dump station.

(2) Truck unloading/conveyors.

(3) Storage hoppers, all exhausting to a common bin vent, rated at 0.01 grains per dry standard cubic foot, into the building.

Alloy unloading is performed in a 3-sided building along the side of the existing Castrip building. Emissions exhaust to the atmosphere.

(4) One (1) bulk lime storage silo, with a capacity of 70 tons and a loading rate of 25 tons per hour, with a baghouse venting to stack AU-2a.

(5) One (1) totally enclosed screw auger system for the bulk lime storage silo with a loading rate of 30 tons per hour.

(j) Dumping, storage, and transfer operations of alloy raw materials for the strip caster plant, identified as AU-1 and constructed in 2002.

**D.4 - CASTRIP – LMS, TUNDISH, AND CONTINUOUS STRIP CASTER**

(k) A strip caster line rated at a maximum steel production rate of 270 tons per hour consisting of:

(1) One (1) ladle metallurgy station, identified as LMS-2, constructed in 2002, to be modified in 2006, and maximum production capacity of 270 tons of steel per hour, and emissions captured by a side draft hood that has a PM capture efficiency of 99 percent and controlled by the LMS-2 baghouse, and exhausting to the LMS-2 baghouse stack identified as S-20. The remaining uncontrolled emissions shall be exhausted through the LMS-2 roof monitor identified as S-21. The LMS-2 baghouse has an enclosed dust handling system or equivalent for material recovery and particulate matter control.

(2) Tundishes, identified as T-1, constructed in 2002, to be modified in 2006, with a maximum production capacity of 270 tons of steel per hour. The two (2) natural gas-fired tundish preheaters, identified as TP-1 and TP-2 and the three (3) natural gas-fired tundish dryers, identified as TD-1, TD-2 and TD-3, supply heat to the tundish. Only one (1) tundish may be operated at a given time. The tundish in operation feeds the molten metal from the LMS-2 ladle to one (1) continuous strip caster identified as CS-1.

(3) One (1) continuous strip caster, identified as CS-1, constructed in 2002, to be modified in 2006, a maximum capacity of 270 tons of steel per hour, and emissions captured by a canopy hood that has a PM capture efficiency of 98 percent. The captured PM in the gas stream shall be controlled by the LMS-2 baghouse and the gas stream shall be exhausted though the LMS-2 baghouse stack identified as S-20. The remaining uncontrolled emissions shall be exhausted through the LMS-2 roof monitor identified as S-21.

**D.5 – INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SILOS** (See Condition A.4)

**D.6 – INSIGNIFICANT ACTIVITIES – CASTRIP – COILERS, COIL CUTTING, AND HOT ROLLING STAND** (See Condition A.4)

**WASTEWATER TREATMENT PLANT**

(l) One wastewater treatment plant, identified as WWTP, constructed in September 2002, consisting of two water recovery systems i.e. oil/alkali wastes and acid rinse water, and surge vessels for the regenerated acid, acid rinse water and spent pickle liquor. The WWTP consists of following:

(1) Oily waste tanks:

(A) Two (2) batch treatment tanks, identified as T-853 and T-854, with a maximum capacity of 12,000 gallons each, with emissions uncontrolled, and exhausting inside the building.

(B) One (1) decant oil tank, identified as T-856, with maximum capacity of 9,000 gallons with emissions uncontrolled, and exhausting inside the building.

(C) One (1) oily waste evaporator feed tank, identified as T-858, with maximum capacity of 20,000 gallons with emissions uncontrolled.

(D) One (1) oily waste evaporator concentrate tank, identified as T-857, with maximum capacity of 20,000 gallons with emissions uncontrolled, and exhausting inside the building.

(2) Acid tanks:

(A) Three (3) acid rinse water surge tanks, identified as T-850, T-851 and T-852, with a maximum capacity of 33,000 gallons each, with emissions controlled by the pickle line scrubber #1, and exhausting to stack S-17.

(B) One (1) lime neutralization tank, identified as T-875, with maximum capacity of 10,000 gallons, with emissions controlled by a wet particulate scrubber, and exhausting to stack S-60.

(C) One (1) acidic rinse evaporator feed tank, identified as T-877, with maximum capacity of 20,000 gallons with emissions uncontrolled and exhausting to stack S-17.

(D) One (1) acidic rinse evaporator concentrator tank, identified as T-878, with maximum capacity of 20,000 gallons with emissions uncontrolled and exhausting to stack S-17.

(3) Two (2) closed chamber type evaporators, identified as EV-1 and EV-2, each with a maximum capacity of 1,800 gallons per hour. This is a closed loop system with no emissions.

(4) One (1) vertical fixed roof galvanizing line wastewater storage tank, identified as T-855, with a capacity of 9,000 gallons, with emissions uncontrolled and exhausting inside the building.

(m) Three (3) raw acid/regenerated acid tanks, identified as T-867, T-868 and T-869, constructed in September 2002, with a maximum capacity of 33,000 gallons each, with emissions controlled by the pickle line scrubber, and exhausting to S-17.

Under 40 CFR Part 63, Subpart CCC, these units are considered new hydrochloric acid storage vessels.

(n) Four (4) spent pickle liquor tanks, identified as T-863, T-864, T-865 and T-866, constructed in September 2002, each with a maximum capacity of 33,000 gallons each, with emissions controlled by the pickle line scrubber, and exhausting to S-17.

(o) Lime silo system, constructed in 1989 and relocated in September 2002, including the following equipment:

(1) One (1) lime silo, identified as TFS-1, with a maximum capacity of 60,000 pounds.

(2) One (1) live bin bottom.

(3) One (1) screw conveyor.

(4) One (1) wet particulate scrubber.

**D.7 – SLAG PROCESSING**

(p) Slag processing, identified as EU-10, constructed in 1989, is performed by Whitesville Mill Service Company, an on-site contractor. Slag and other steel mill related materials are transported by slag pots or other mobile equipment, processed, and stockpiled with a maximum throughput of 305 tons/hr. This emission unit consists of storage piles (unprocessed and processed materials), grizzly feeding, slag processing (screening, conveying, and crushing), slag pot dumping, product loading for transport, and unpaved roads. The fugitive emissions from slag processing are controlled by water sprays and exhaust to the atmosphere.

Approved in 2011 for modification to add two (2) conveyors, identified as TSP-1 and TSP-5, replacement Screen identified as TSP-2 rated at 341 tons/hour, addition of a magnetic separator to a new conveyor belt exiting the Grizzly. Increase the capacity of screening process, TSP-8, consisting of three (3) screeners from a total of 305 tons/hr to a total of 447 tons/hr. Finally, the screened material will be conveyed into the remaining permitted EU10 operation which will increase utilization due to the increase in capacity of TSP-8.

One (1) crusher, TSP-6 with a maximum throughput rate of 100 tons per hour, approved in 2010 for construction and approved in 2011 to increase its capacity to 305 tons per hour.

(q) One (1) mill scale screen and conveyor system, identified as MSS-1, constructed in 2001, with a maximum throughput rate of 350 tons of mill scale per hour, with emissions uncontrolled, and exhausting to the atmosphere.

(r) Blend Plant, approved in 2011 for construction, with a maximum rated capacity of 305 tons per hour, which includes front end loaders identified as BP-1 and conveying system identified as BP-2, with fifty (50) slag storage piles. The Blend Plant will further process the various materials streams from the existing Slag Operation EU-10 to produce various blends of slag products. The Blend Plant will process any slag material that is not processed by Melt Solutions, the temporary screening plant or that is processed as slag chips.

(s) Temporary Screening Plant, approved in 2011 for construction, with maximum rated capacity of 60 tons per hour, powered by a 97 HP diesel generator, TSP-3. This screening plant will further screen the slag product from EU-10 to a smaller size for special applications. When this screen plant is not in operation this material will go to the Blend Plant.

(t) One (1) Coil and Scrap Cutting Operation, identified as CC-1, with particulate emissions controlled by a baghouse, utilizing one (1) 11 million British thermal units per hour (MMBtu/hr) torch unit to cut the coils and scrap, approved in 2011 for construction.

**D.8 – LINDE GASES PLANT**

(r) The Linde Gases Plant is operated by Linde Gases, an on-site contractor. It provides gases (oxygen, nitrogen, hydrogen, argon, and liquid air) consisting of:

(1) One (1) natural gas-fired boiler identified as ID No. 1, constructed in 1989, with a heat input capacity of 9 MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-36. This boiler uses propane as a backup fuel.

(2) One (1) natural gas-fired boiler, identified as ID No. 2, constructed in 1994, with a heat input capacity of 15.0 MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-37. This boiler uses propane as a backup fuel.

Under 40 CFR Part 60, Subpart Dc, this unit is considered a steam generating unit.

(3) One (1) natural gas-fired boiler, identified as the hydrogen plant boiler, constructed in 1996, with a heat input capacity of 9.98 MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-30. This boiler uses propane as a backup fuel.

**D.9 – INSIGNIFICANT ACTIVITIES – PAVED AND UNPAVED ROADS** (See Condition A.4)

**D.10 – PETROLEUM PRODUCT STORAGE**

(s) One (1) 500 gallon aboveground gasoline storage tank, identified as GST #1, installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

(t) Three (3) 500 gallon aboveground diesel storage tanks, identified as DST #1, DST #2, and DST #3, all installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

(u) One (1) 5,000 gallon aboveground diesel storage tank, identified as DST #4, installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

**D.11 – COOLING TOWERS**

(v) The contact and noncontact cooling towers are equipped with drift eliminators. Each cooling tower exhausts to the atmosphere.

| Cooling Towers | No. of Cells | Average Capacity (gal/min) | Cooling Towers | No. of Cells | Average Capacity (gal/min) |
|---|---|---|---|---|---|
| Meltshop Non Contact | 9 | 60,000 | Galvanizing/Annealing Non Contact | 2 | 6,500 |
| Meltshop Caster Contact | 2 | 5,000 | Annealing Non Contact | 2 | 5,000 |
| Meltshop Caster Contact (expansion) | 2 | 5,000 | Castrip Contact | 4 | 12,000 |
| Hot Mill Contact | 4 | 16,383 | Castrip Non Contact | 7 | 14,400 |
| Hot Mill Contact (expansion) | 1 | 4,000 | | | |
| Hot Mill Non Contact | 4 | 25,319 | | | |
| Laminar Contact | 3 | 11,600 | LINDE Non Contact (CT-91B) | 2 | 3,200 |
| Cold Mill Non Contact | 2 | 10,000 | | | |
| Cold Mill Non Contact (expansion) | 1 | 5,000 | | | |
| Vacuum Degasser Contact | 1 | 8,000 | Vacuum Degasser Non Contact | 1 | 8,000 |

**D.12 – CLEAN SHRED SCRAP PLANT**

(w) Clean shred scrap plant, permitted for construction in 2009 consisting of the following:

(1) One (1) loading pan with a maximum design throughput rate of 300 tons per hour, loaded by batch drop from front end loader, crane or truck, controlled by water sprays.

(2) Three (3) magnetic sorters and associated conveyor belts with a maximum design throughput rate of 300 tons per hour, with a total of eighteen (18) drop points. Water sprays will be used at the first conveyor belt in quantities sufficient enough that no additional water is necessary at the remaining downstream drop points.

This additional clean shred scrap plant will be used to sort scrap and scrap substitutes. This will also increase the size of the scrap metal storage area. However, it will not increase steel production since it does not increase the amount of scrap that can be supplied to the EAFs for melting.

**INSIGNIFICANT ACTIVITIES – SCRAP HANDLING AND PROCESSING**

(See Condition A.4)

**D.13 – EMERGENCY GENERATORS**

(w1) Diesel fired generators and air compressors for power outages and emergencies.

(1) Cold Mill generator, identified as GEN #3, constructed in 1997, with a capacity of 280 HP, with emissions uncontrolled.

(2) Hot Mill NC Cooling Tower generator, identified as GEN #1, constructed in 1989, with a capacity of 2,100 HP, with emissions uncontrolled.

(3) Galv Line Pot generator, identified as GEN #4, constructed in 1992, with a capacity of 890 HP, with emissions uncontrolled.

(4) MS Cooling Tower Cold Well generator, identified as GEN #2, constructed in 1996, with a capacity of 2,520 HP, with emissions uncontrolled.

**D.14 – INSIGNIFICANT ACTIVITIES – FUEL DISPENSING FACILITIES**
(See Condition A.4)

**D.15 – COLD MILL – PICKLE LINES 1 AND 2**

(x) Both Pickle Lines use enhanced HCl pickling solution and rinse water and are equipped with process tanks.

(1) Pickle Line 1, identified as PL1, constructed in 1988, with a maximum capacity of 250 tons/hr, controlled by a counter flow-packed scrubber and mist eliminators, and exhausting to stack S-17. The Pickle Line 1 scrubber has a design flow rate of 12,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 1 is considered an existing continuous pickle line.

(2) Pickle Line 2, consisting of the following units:

(A) One (1) Pickle Line, identified as PL2, constructed in 1997, with a maximum capacity of 250 tons/hr, controlled by a tray scrubber and mist eliminators, and exhausting to stack S-18. The Pickle Line 2 scrubber has a design flow rate of 9,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 2 is considered an existing continuous pickle line.

(3) The tank farm treats the rinse water from Pickle Line 1 and Pickle Line 2. These tanks also store spent acid, raw acid, regenerated acid, oily wastewater treated waters for reuse, treatment process wastewater, and other process and treated waters.

Under 40 CFR Part 63, Subpart CCC, the tanks that store virgin or regenerated hydrochloric acid are considered new hydrochloric acid storage vessels.

**D.16 – COLD MILL – COLD REVERSING MILL 1 AND COLD MILL BOILER (CMB #1)**

(y) Cold Reversing Mill 1, identified as EU-09, constructed in 1988, with a maximum capacity of 250 tons/hour. Emulsion oil is sprayed on the strip, controlled by hoods mounted on both sides of the mill stand and exhausting, through collision mist eliminators at a design flow rate of 84,000 acf/min and 0.01 gr/dscf, to stack S-32.

(z) One (1) natural gas fueled Cold Mill Boiler, identified as CMB#1, constructed in 1988, with a heat input capacity of 34 MMBtu per hour, with emissions uncontrolled and exhausting to stack S-19. The boiler uses propane as a backup fuel.

(z1) One (1) natural gas-fired NuPro boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008.

Under 40 CFR Part 60, Subpart Dc, unit in (z1) is considered steam generating unit.

**D.17 – COLD MILL – REVERSING AND TEMPERING (R/T) MILL**

(bb) Reversing and Tempering (R/T) Mill, (previously known as Temper Mill), identified as EU-14, constructed in 1995, with a maximum capacity of 250 tons of steel per hour, with emulsion oil sprayed on the strip, and controlled by hoods mounted on both sides of the mill stand and a fabric filter, exhausting through a panel-type collision mist eliminators to stack S-22. The panel-type collision mist eliminator has a design flow rate of 84,000 acf/min and an outlet grain loading of 0.01 gr/dscf. Note: This mill can reverse and temper. The mist eliminators operate as controls only when the mill is operating as a cold reversing mill.

**D.18 – COLD MILL – ALKALINE CLEANING STATION**

(cc) Alkali Cleaning at the Galvanizing line with mist eliminator as control. Emissions are exhausted to stack #510. The Alkaline Cleaning Station has a capacity of 140 tons of steel per hour.

**D.19 – COLD MILL – ANNEALING FURNACES**

(dd1) Eighteen (18) natural gas-fueled batch Annealing Furnaces, identified as EU-03, constructed in 2001. Each has a heat input capacity of 4.8 MMBtu per hour and a maximum throughput capacity of 200 tons of steel per hour. Emissions are uncontrolled and exhaust to roof vent (S-26).

(dd2) One (1) natural gas-fired annealing furnace, identified as AN-19, approved for construction in 2007, with a heat input capacity of 4.8 MMBtu per hour and a maximum throughput capacity of 200 tons of steel per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to roof vent (S-26).

**D.20 – INSIGNIFICANT ACTIVITIES – COLD MILL – QUALITY CONTROL/REWIND INSPECTION LINE** (See Condition A.4)

**D.21 – COLD MILL – ACID REGENERATION**

(ee) Acid Regeneration system, identified as EU-04, constructed in 1989, consisting of two natural gas fueled tangentially fired burners with a maximum rating of 5.6 MMBtu per hour, and an absorber and cyclone with emissions controlled by its own counter flow packed scrubber (identified as AR scrubber) with mist eliminator exhausting to stack S-31. The counter flow-packed scrubber has a design flow rate of 4,269 acf/min and loading of 0.04 gr/dscf. Propane is used as back up fuel.

Under 40 CFR Part 63, Subpart CCC, this unit is considered an existing acid regeneration plant.

**D.22 – COLD MILL – GALVANIZING LINE/GALVANNEAL, CONTINUOUS ANNEALLING, PHOSPHATE AND CHROMATE APPLICATION**

(ff) Thirty six (36) Main Burners, identified as PHB #1 – PHB #36, constructed in 1992, and modified in 2002, input capacity of 1.622 MMBtu per hour each, and three (3) Auxiliary Burners, each with a heat input capacity of 0.1 MMBtu per hour in the preheat furnace section of the galvanizing line using natural gas rated at maximum total capacity of 58.7 MMBtu per hour. The burners use natural gas as primary fuel and propane as backup fuel. The main burners exhaust to stack S-27. The NOx emissions from PHB #1 – PHB #36 are controlled by a Selective Catalytic Reduction/Selective Non-Catalytic Reduction (SCR/SNCR) Systems. A continuous emissions monitor (CEM) is used to monitor NOx

emissions. The galvanizing line has an electrostatic oiler. The three (3) Auxiliary Burners exhaust to the atmosphere.

(gg) Additional burners as follows:

(1) Forty four (44) Burners, identified as RB#1 – RB#44, constructed in 2002, each with a heat input capacity of 0.323 MMBtu per hour in radiant tube section with a maximum total capacity of 14.2 MMBtu per hour and option to replace nonconforming burners. The NOx emissions are controlled by a SCR System. The SCR/SNCR and SCR systems shall be referred to collectively as the SCR/SNCR system. The burners use natural gas as primary fuel and propane as backup fuel and exhaust to stack S-27.

(2) One (1) auxiliary burner with a maximum heat input of 3.2 MMBtu/hr in the Alkaline Cleaning Section. The burner is natural gas fired and use propane as backup.

(3) Two (2) auxiliary burners with a maximum heat input of 1.5 MMBtu/hr each in the Strip Dryer Section. The burners are natural gas fired and use propane as backup.

(4) Four (4) auxiliary burners with a maximum heat input of 0.052 MMBtu/hr each in the Pot Roll Heater. The burners are natural gas fired and use propane as backup.

(5) Two (2) emergency burners with a maximum heat input of 0.58 MMBtu/hr each in the Zinc Pot Section. The burners are natural gas fired and use propane as backup.

(6) Two (2) auxiliary burners with a maximum heat input of 0.013 MMBtu/hr each in the Preheat open end burners section. The burners are natural gas fired and use propane as backup.

The SCR/SNCR and SCR systems shall be referred to collectively as the SCR/SNCR system.

(hh) One (1) Zinc Coating pot, identified as ZP#1, constructed in 1992, with a maximum capacity of 140 tons of steel per hour, uncontrolled and exhausting to the atmosphere.

**D.23 – INSIGNIFICANT ACTIVITIES – WELDING** (See Condition A.4)

**D.24 – INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SHEARS, SIDE TRIMMERS, AND SCRAP CUTTING** (See Condition A.4)

**D.25 – HOT STRIP MILL & TUNNEL FURNACE SYSTEM**

(ii) The Hot Strip Mill, identified as HSM, constructed in 1989, with a maximum capacity of 502 tons/hour consisting of various rolling mill processes: Shearing, Descaling, Finishing, Rollout Table, Coilers, Skin Pass Mill and Roll Grinders. Parts of the Hot Mill Strip are controlled by water roll cooling.

(jj) Tunnel Furnace System, identified as EU-02, constructed in 1989, with a maximum capacity of 502 tons/hour, with a maximum total heat input capacity of 200 MMBtu per hour, emissions uncontrolled, tunnel furnace 1 exhausts to stack S13 and S14, tunnel furnace 2 exhausts to stack S15, and consisting of:

(1) Tunnel Furnace 1 – Natural gas fired with a heat input capacity of 84 MMBtu per hour. Tunnel Furnace 1 was constructed in 1989 as part of the original Tunnel Furnace System. Propane may be used as a backup fuel.

(2) Tunnel Furnace 2 – Natural gas fired with a heat input capacity of 84 MMBtu per hour. Tunnel Furnace 2 was constructed in 1994. Propane may be used as a backup fuel.

(3) Shuttle Furnaces 1 and 2 – Natural gas fired with a heat input capacity of 13 MMBtu per hour each using low NOx burners. Shuttle Furnaces 1 and 2 were constructed in 1994 and approved for a burner replacement in 2008. Propane may be used as a backup fuel.

(4) Snub Furnace – Natural gas fired with a heat input capacity of 6 MMBtu per hour. The snub furnace was constructed in 1989 and modified in 1994. Propane may be used as a backup fuel.

**D.26 – HOT STRIP MILL – ANNEALING FURNACES**

(kk) Two (2) natural gas-fired annealing furnaces using propane as a backup fuel, identified as HM #1 and HM #2, each with a maximum heat input capacity of 14.505 MMBtu per hour, both constructed in 2006. Emissions are controlled by low NOx burners and exhaust to the atmosphere.

**D.27 – INSIGNIFICANT ACTIVITIES – DEGREASING** (See Condition A.4)

**D.28 – MELT SHOP – MATERIAL TRANSFER STATION**

(ll) Material transfer station #1, located inside the building exhausting to general ventilation, which will service both the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, scrap, scrap substitutes, and other alloys from rail cars. Railcars are unloaded to trucks, silos, or the meltshop alloy handling system. Identified as MT #1, constructed in 2003, and consisting of:

(1) Rail car bottom unloading through a rubber boot to a conveyor with emissions uncontrolled.

(2) One (1) totally enclosed conveyor, identified as MTC, constructed in 2003, with emissions controlled by a bin vent dust collector and exhausting to stack S-45.

(3) One (1) loading spout connected to the load truck with emissions uncontrolled.

(mm) Material transfer station #2, located inside the building and exhausting to the atmosphere, which services the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, scrap, scrap substitutes, and other alloys from rail cars. Railcars are unloaded to trucks, silos, or the meltshop alloy handling system. Identified as MT #2, constructed in 2006, and consisting of:

(1) Ten (10) storage silos, each controlled by individual bin vent filters or the Meltshop EAF baghouses (1 and 2).

(2) One (1) rail unloading operation under a roof.

(3) One (1) truck dumping station enclosed by a three sided building.

(4) One (1) loader dumping station enclosed by a three sided building.

(5) Associated enclosed conveyors.

(6) Storage bins.

(7) Misc. feed equipment and controls.

(mm1) Material transfer station #3, located outside, exhausting to the atmosphere, which services both the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, and other alloys from rail cars. Rail cars are unloaded to trucks, which transfer materials to silos, or the meltshop alloy handling system. Identified as MT #3, and consisting of:

(1) Rail car bottom unloading through a rubber boot to a conveyor with emissions uncontrolled.

(2) One (1) totally enclosed conveyor, identified as MTC #2 with emissions controlled by a bin vent dust collector and exhausting to the atmosphere.

(3) One (1) loading spout connected to the load truck with emissions uncontrolled.

**D.29 – MELTSHOP– ELECTRIC ARC FURNACES, ARGON OXYGEN DECARBURIZATION (AOD) VESSELS, DESULFURIZATION, CONTINUOUS CASTERS, EAF DUST TREATMENT FACILITY**

(nn) Two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, constructed in 1989 and approved for modification in 2007 to replace the furnace bottoms. EAF #1 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #2 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #1 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute and EAF #2 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute constructed in 1996, and approved for modification in 2003. Together the EAFs and the Argon Oxygen Decarburization (AOD) have a maximum capacity of 502 tons/hour, with emissions controlled by multi compartment reverse air type baghouses (identified as Meltshop Baghouse1 and Meltshop Baghouse2). In addition the EAFs have the following associated equipment:

(1) Seven (7) small charge buckets, five (5) buckets constructed in 1989 and two (2) charge buckets approved for construction in 2007.

(2) Three (3) additional large charge buckets used for single furnace charges on both EAFs, approved for construction in 2007.

(3) Twenty-five (25) EAFs ladles, twenty-one (21) constructed in 1989, four (4) ladles approved for construction in 2007.

(4) EAF charge handling currently utilizing two (2) overhead cranes with magnets and a conveyor to load charge buckets constructed in 1989 and approved for modification in 2007 with the addition of 2 new scrap cranes with magnetics, enhancement of existing cranes and/or magnetics, use of rail and/or truck dump and loader operations and the use of mobile cranes to load charge buckets in the scrap yard.

(5) Flux and alloy material handling system for direct feeding of alloys, lime, carbon, scrap substitutes and other related materials to the EAFs constructed in 1989 and approved for modification in 2007 with the addition of bulk loading of material to the system in a three-sided building.

Under 40 CFR Part 60, Subpart AAa, these units are considered electric arc furnaces.

(1) The EAFs also utilize the following technologies:

(A) A direct shell evacuation (DSE) control system ("a fourth hole duct"),

(B) An overhead roof exhaust system consisting of canopy hoods,

(C) Oxy fuel burners, and

(2) Each or any combination of the Meltshop EAFs and AOD can independently produce the maximum capacity of 502 tons/hour of steel. Each Meltshop EAF can operate concurrently or independently to achieve this maximum capacity.

(3) Both the Meltshop Baghouse1 and Meltshop Baghouse2 capture the emissions from the Meltshop EAFs, AOD vessel, Desulfurization, Meltshop Continuous Casters, the three (3) Ladle Metallurgy Furnaces (EU-13 (a), EU-13 (b) and EU-13 (c)) and other miscellaneous sources. Each Meltshop Baghouse can sufficiently control emissions independently.

(A) The Meltshop Baghouse1 is a multi compartment positive pressure baghouse, has a design air flow rate of 1,527,960 actual cubic foot/min (acf/min) and an outlet PM loading of 0.0018 grains/dry standard cubic foot (gr/dscf). This Meltshop Baghouse1 exhausts to a roof vent/monitor identified as vent BH1.

(B) The Meltshop Baghouse2 is a multi compartment positive pressure baghouse, has a design flow rate of 915,000 dscf/min and 1,200,000 acf/min and an outlet PM loading of 0.0018 gr/dscf. This Meltshop Baghouse2 exhausts to a stack identified as BH2.

(4) The fugitive emissions generated during the furnace operations are captured by the Meltshop Roof Canopies or contained within the Meltshop Building.

(5) The Meltshop roof monitors include exhausts from the ladle preheaters, ladle dryers, tundish preheaters, tundish dryers, ladle lancing station, tundish dumping, fugitive emissions from the LMFs, fugitive emissions from the Meltshop Casters and other Meltshop operations.

(oo) One (1) Argon oxygen decarburization (AOD) vessel, identified as AOD1, constructed in 1995. One (1) top lance for AOD1 rated at 300,000 cubic feet/hour of oxygen. Together the AOD and the Meltshop EAFs have a total maximum capacity of 502 tons/hour, with emissions controlled by the Meltshop Baghouse1 which exhausts to a roof vent/monitor identified as vent BH1, and Meltshop Baghouse2 which exhausts to stack BH2. One Argon-Oxygen Decarburization Dryout and Preheat Burner, constructed pursuant to CP 107-3599-00038, as revised by A107-4631-00038, September 28, 1995.

Under 40 CFR Part 60, Subpart AAa, AOD1 is considered an argon-oxygen decarburization vessel.

(pp) Desulfurization (DS) is an additional step in the Meltshop operations that remove sulfur. It has a maximum capacity of 502 tons of metal per hour.

(qq) Two (2) Meltshop Continuous Casters, identified as CC #1 and CC #2, CC #1 was constructed in 1989, CC #2 was constructed in 1994, with total maximum capacity of 502 tons/hour, with emissions controlled by the Meltshop Baghouse1 identified as vent BH1 which exhausts to a roof vent/monitor or Meltshop Baghouse2 which exhausts to stack BH2. The steam from the Meltshop Continuous Casters exhausts through stack S-11.

(rr) An EAF dust treatment facility, identified as DTF, constructed in 2004, with a capacity of 100,000 lb/hour, with emission control by bin vents for the silos, scrubber for dust treatment and baghouse for truck loading. Dust transfer will also occur inside the building.

Under 40 CFR Part 60, Subpart AAa, this unit is considered a dust handling system. Options for the dust transfer are:

(1) from silo to truck through a loading spout,

(2) from silo to railcar through a loading spout,

(3) From silo to truck through a loading spout to transfer to the existing Meltshop Baghouses. Unloading from the truck at the existing Meltshop Baghouses also occurs in the building, transferring the dust through augers and a bucket elevator to the existing silo. In this option, the existing EAF dust treatment will have a maximum capacity of 100,000 lb/hr.

(4) Treating dust at the new silo and transferring to a truck. No loading spout is necessary because the material is no longer dusty, as treated.

The EAF dust treatment facility consists of the following:

(A) One (1) lime storage silo, identified as HRE #1, constructed in 1999, with a maximum capacity of 109 tons, emissions controlled by a bin vent filter, and exhausting to stack HR/E-2. Lime is pneumatically loaded to the silo at a maximum transfer rate of 40,000 pounds per hour.

(B) One (1) pugmill, identified as PM, constructed in 1999, with a maximum capacity of 100,000 pounds per hour, emissions controlled by one (1) venturi scrubber, and exhausting to stack HR/E-1. Lime is transferred to the pugmill via a screw conveyor system at a maximum transfer rate of 5,100 pounds per hour and EAF dust is transferred to the pugmill via gravity through an enclosed cone bottom loading spout at a maximum transfer rate of 100,000 pounds per hour.

(ss) Three (3) Meltshop Ladle Metallurgy Furnaces (LMFs)/Stirring Station, two (2) identified as EU-13 (a) and (b), constructed in 1988, and approved for modification in 2009 by ducting the exhaust to the Meltshop Baghouses 1 and 2; and one (1) LMF identified as EU-13 (c) approved for construction in 2007 with a maximum capacity of 502 tons/hour each. All three LMFs are controlled by the Meltshop Baghouses 1 and 2. In addition the LMFs have the following associated equipment:

(1) Ladle Preheaters, identified as LP #1a through LP #6a and LD-1, consisting of:

(A) Three (3) natural gas-fired ladle preheaters, identified as LP #1a, LP #2a, and LP #3a, approved for construction in 2007, each with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(B) One (1) natural gas-fired AOD ladle preheater, identified as LP #4a, approved for construction in 2007, with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(C) One (1) natural gas-fired ladle preheater, identified as LP #5a, approved for construction in 2007, with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(D) One (1) natural gas-fired ladle preheater, identified as LP #6, approved for construction in 2006, with a heat input capacity of 12 MMBtu/hour, utilizing low-NOx burners, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(E) One (1) natural gas-fired ladle preheater/dryer, identified as LD-1, approved for modification in 2007, with a heat input capacity of 10 MMBtu/hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(2a) Ladle Dryer, identified as LDS #1, constructed in 1989, consisting of a low NOx natural gas fired burner, with a heat input capacity of 5 MMBtu per hour using propane as a backup fuel. Emissions are uncontrolled and exhausting to stack 12.

(2b) One (1) natural gas-fired Ladle Dryer, identified as LDS #1a, approved for construction in 2007, with a heat input capacity of 5 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-12.

(3) Five (5) Tundish Preheaters, identified as TP1 - TP5, constructed in 1995, each with a heat input capacity of 6 MMBtu per hour, using propane as a backup fuel.

(4) Two (2) Tundish Dryout Stations, identified as TD #1 and TD #2. TD #1 was constructed in 1989, and TD#2 was constructed in 1990, each with a heat input capacity of 9 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(5) Four (4) Tundish Nozzle Preheaters, identified as TNP #1- #4, constructed in 1995, consisting of a low NOx natural gas fired Preheaters, each with a heat input capacity of 0.8 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(6) One (1) natural gas-fired tundish dryout station, identified as TD #3, approved for construction in 2007, with a maximum heat input capacity of 2.4 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(7) Two (2) natural gas-fired mandrel dryers, identified as MD #1 and MD #2, approved for construction in 2007, each with a heat input capacity of 1.5 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(8) Fifteen (15) belt conveyors and 20 weight hoppers, with a maximum throughput of 200 tons per hour, approved for construction in 2007. These conveyors will supply lime, carbon and alloys to the new LMF EU-13(c)).

(9) Flux and alloy material handling system for direct feeding of alloys, lime, carbon, scrap substitutes and other related materials to the LMFs, constructed in 1988 and approved for modification in 2007 with the addition of a three-sided building for bulk loading of material to the system.

**(D.30 – INSIGNIFICANT ACTIVITIES – MELTSHOP (See Condition A.4)**

**D.31 – NuPro Steel, LLC Operations**

(a) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, each with a maximum design capacity of 300,000 pounds of hot rolled steel coils

per hour.

(b) Six (6) natural gas-fired air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

(c) One (1) cleaner/degreaser, permitted for construction in 2009, with one (1) heated cleaning section, with two (2) 4.8 MMBtu/hr natural gas-fired burners, with burners venting inside the building and one (1) cold cleaning section, consisting of cleaning and rinsing, with a mist eliminator, AC-02 rated at 0.003 grain per dry standard cubic foot (gr/dscf), venting into the atmosphere, and

(d) One (1) leveler/straightener line, permitted for construction in 2009, controlled by one (1) baghouse, AC-01 with maximum design air flow rate of 10,000 actual cubic feet per minute (acfm), exhausting into the atmosphere.

**D.32 – Melt Solution, LLC B-Scrap Beneficiation operations approved in 2011 for construction**

(a) Material handling process with one (1) Front End-Loader, identified as BSBP-1, with a maximum throughput rate of 100 tons per hour;

(b) Two (2) conveyor belts with magnetic separator, identified as BSBP-2, with a maximum throughput rate of 100 tons per hour;

(c) One (1) jaw crusher, identified as BSBP-3, with a maximum throughput rate of 100 tons per hour;

(d) One (1) screener, identified as BSBP-4, with a maximum throughput rate of 100 tons per hour;

(e) One (1) 425 brake horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5.

This process involves further processing of the finished product from the existing Slag Processing, EU-10.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

**D.5 – INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SILOS**

(a) Raw materials handling/storage, including silos which contain the following materials:

(1) One (1) lime silo TFS-1.

(2) Baghouse #1 lime silo (HRE #1).

(3) One (1) Iron Oxide Silo (IOS #1).

(4) Three (3) Baghouse Dust Silos (BHS#1, BHS#2, BHS#3).

(5) One (1) Soda Ash Silo (SAS #1) (this will become the sand silo).

(6) One (1) Iron Carbide Silo #1 (no longer in service).

(7) One (1) Lime Silo (#1 SEAF).

(8) One (1) Lime Silo (#2 SEAF).

(9) One (1) Lime Silo (#3 NEAF).

(10) One (1) Lime Silo (#4 NEAF).

(11) One (1) Injection Carbon Silo #1, with bin vent filter and capacity of 3,625 cubic feet, permitted in 2010 for construction.

(12) One (1) Injection Carbon Silo #2.

(13) One (1) Charge Carbon Silo #1.

(14) One (1) Charge Carbon Silo #2.

(15) Three (3) AOD alloy system silos (AOD#1, AOD#2, and AOD#3).

(16) Ten (10) Melt Shop Alloy Feed System silos (MS alloy #1, MS alloy #2, MS alloy #3, MS alloy #4, MS alloy #5, MS alloy #6, MS alloy #7, MS alloy #8, MS alloy #9, MS alloy #10).

**D.6 – INSIGNIFICANT ACTIVITIES – CASTRIP – COILERS, COIL CUTTING, AND HOT ROLLING STAND**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(b) Two (2) coilers, identified as C-1 and C-2, constructed in 2002. Fugitive particulate emissions from this process are controlled by the application of water to the coilers and exhausting to the roof monitor S-21. These coil the steel strip from the continuous strip caster.

(c) Scrap coil cutting in the Castrip area, identified as CC-1, constructed in 2002, occurs on an as needed basis, controlled by the Castrip LMS Baghouse and exhausting to stack S-20.

(d) One (1) hot rolling stand, identified as HRS #1, constructed in 2002. This stand rolls the steel strip from the continuous strip caster to the desired gauge. Fugitive particulate emissions controlled by the application of water to the steel strip, and exhausting to the LMS roof monitor identified as S-21.

**D.9 – INSIGNIFICANT ACTIVITIES – PAVED AND UNPAVED ROADS**

(e) Paved and unpaved roads and parking lots with public access. Transport on new and existing paved roadways and parking lots, unpaved roadways, and unpaved areas around existing raw material storage piles.

**D.11 - INSIGNIFICANT ACTIVITIES – COOLING TOWERS**

(a) One (1) Non-Contact Cooling Tower, identified as CT-91A, with an average capacity of 900 gallons per minute (gpm), located at LINDE GASES PLANT, permitted in 2010 for construction.

**D. 12 – INSIGNIFICANT ACTIVITIES – SCRAP HANDLING AND PROCESSING**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(f) Cutting of scrap metals and scrap substitutes. Except as authorized in Condition D.12.1(c) of this permit cutting of certain types of scrap should be performed indoors and exhaust to general ventilation.

**D.14 – INSIGNIFICANT ACTIVITIES – FUEL DISPENSING FACILITIES**

(g) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles or other mobile equipment, having a storage capacity less than or equal to 10,500 gallons.

A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day, or less.

(1) One (1) 10,000 gallon diesel storage tank, handling less than 3,000 gallons per day.

(2) One (1) 1,000 gallon diesel storage tank handling less than 500 gallons per day.

(3) One (1) 500 gallon diesel storage tank, located at the NuPro Plant.

**D.20 – INSIGNIFICANT ACTIVITIES – COLD MILL – QUALITY CONTROL/REWIND INSPECTION LINE**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(h) The unwinding and rewinding of steel coil for quality control inspections and the Cold Mill Quality Control Furnace.

**D.23 – INSIGNIFICANT ACTIVITIES – WELDING**

(i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including the galvanizing line welder.

(j) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables.

**D.24 – INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SHEARS AND SIDE TRIMMERS**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(k) Various shears located at various sites throughout the facility.

(l) Side trimmers located at various sites throughout the facility.

**D.27 – INSIGNIFICANT ACTIVITIES – DEGREASING**

(m) Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21) consisting of: Degreasing operations, identified as DG, with a maximum throughput greater than 145 gallons per 12 months, uncontrolled and exhausting to the atmosphere.

**D.30 – INSIGNIFICANT ACTIVITIES – MELTSHOP**

(n) Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(1) Ladle tap hole cleaning and repair.

(2) Ladle/tundish refractory application and curing.

(3) Tundish dumping.

(4) Ladle dumping.

(5) Ladle/tundish refractory loading and removal.

## A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION B GENERAL CONDITIONS

### B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [13-15-3-6(a)]

(a) This permit, T107-7172-00038 is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

### B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

### B.4 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### B.5 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

### B.6 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

### B.8 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.9 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(i) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

(ii) the certification states that, based on information and belief formed after the reasonable inquiry, the statements and information in the document are true, accurate and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

B.11 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit, including the following information for each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-1(34) “responsible official” as defined by 326 IAC 2-7-1(34).

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ~~,~~ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.13 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.14 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T107-7172-00038 and issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emissions trades that are subject to 326 IAC 2-7-20(b), (c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

**SECTION C** **SOURCE OPERATION CONDITIONS**

Entire Source

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour, and the methods in 326 IAC 6-3-2(b) through (d) do not apply, shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on December 2004. The plan is included as Attachment A.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of PM or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least

thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable

**Testing Requirements [326 IAC 2-7-6(1)]**

C.9 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit,

a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require **a** certification by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ~~,~~ if the Permittee submits to IDEM, OAQ~~,~~ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

**Compliance Requirements [326 IAC 2-1.1-11]**

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.12 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Unless otherwise provided by a rule or in a D Section of this permit, whenever a continuous emission monitor other than an opacity monitor is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, a calibrated backup CEMS shall be brought online within four (4) hours of shutdown of the primary CEMS, and shall be operated until such time as the primary CEMS is back in operation.

(d) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 36 IAC 2-2.

C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 13, 1991.

(b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

C.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.16 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion or exceedance where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

C.18 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr~~)~~) and/or 326 IAC 2-3-1(mm**)**), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq**)** and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii**)** and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period.~~-~~ The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ~~,~~ on or before the date it is due.

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit**,** "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section - General Record Keeping Requirements~~)~~ for any "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C-- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana -46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C-- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction

## SECTION D.1 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**CASTRIP – VACUUM DEGASSER AND FLARE**

(a) One (1) vacuum degasser with process gas lances, identified as V #1, constructed in 2004, to be modified in 2006, a maximum capacity of 270 tons of steel/hour, emissions controlled by a closed flare, and exhausting to Stack 500. This vacuum degasser removes entrained gases from the steel. Desulfurization and/or decarburization may also occur during the degassing process. The enclosed flare burner has a maximum heat input capacity of 2 MMBtu/hour, uses natural gas as its primary fuel with propane as back up fuel, and operates with a minimum temperature of 1,400 $^{o}$F. The flare only operates when the vacuum degasser is under negative pressure (i.e., when CO must be controlled).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.1.1 Vacuum Degasser PSD BACT Limits [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall comply with the following Best Available Control Technology (BACT) requirements:

(a) The carbon monoxide (CO) emissions from the vacuum degasser shall be controlled by a flare that uses natural gas as primary fuel, and propane as back up fuel.

(b) The carbon monoxide (CO) emissions from the vacuum degasser shall not exceed 0.075 pounds per ton of steel processed at the VTD, and 20.25 pounds per hour, based on a 3-hour block average.

(c) The sulfur dioxide ($SO_2$) emissions from the vacuum degasser shall not exceed 0.022 pounds per ton of steel processed at the VTD, and 5.4 pounds per hour, based on a 3-hour block average.

(d) The nitrogen oxides (NOx) emissions from the vacuum degasser shall not exceed 0.0055 pounds per ton of steel processed at the VTD, and 1.35 pounds per hour, based on a 3-hour block average.

(e) The volatile organic compound (VOC) emissions from the vacuum degasser shall not exceed 0.005 pounds per ton of steel processed at the VTD, and 1.35 pounds per hour, based on a 3-hour block average.

(f) The PM/$PM_{10}$ (filterable plus condensable) emissions from the vacuum degasser shall not exceed 0.008 grain per dry standard cubic foot, and 0.45 pounds per hour, based on a 3-hour block average.

(g) The opacity from the vacuum degasser enclosed flare stack (Stack 500) shall not exceed three percent (3%) opacity, based on a six-minute average.

D.1.2 Operational Flexibility – PSD Requirements [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee may operate the vacuum degasser as follows:

(a) The gases can be removed from the steel after the steel has gone through the Castrip Ladle Metallurgical Station (LMS-2), or

(b) The gases can be removed from the steel before the steel goes through the Castrip Ladle Metallurgical Station (LMS-2), or

(c) The gases can be removed from the steel and the steel sent back to the Meltshop Continuous Casters for casting, or

(d) The steel may bypass the vacuum degassing process.

D.1.3 Flare PSD BACT Limits [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall comply with the following Best Available Control Technology (BACT) requirements:

(a) The 2 million British Thermal Unit per hour (MMBTU/hour) enclosed flare burner shall use natural gas as primary fuel and propane as back up fuel.

(b) The collateral nitrogen oxide ($NO_x$) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.10 pounds per MMBTU. The NOx emissions from the 2 MMBTU/hour flare burner shall not exceed 0.005 pounds per ton of steel, and 0.675 pounds per hour, based on a 3-hour block average.

(c) The collateral sulfur dioxide ($SO_2$) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.0006 pounds per MMBTU. The $SO_2$ emissions from the 2 MMBTU/hour flare burner shall not exceed 0.02 pounds per ton of steel, and 2.7 pounds per hour, based on a 3-hour block average.

(d) The collateral carbon monoxide (CO) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.084 pounds per MMBTU. The CO emissions from the 2 MMBTU/hour flare burner shall not exceed 0.075 pounds per ton of steel, and 10.125 pounds per hour, based on a 3-hour block average.

(e) The collateral volatile organic compound (VOC) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.0055 pounds per MMBTU. The VOC emissions from the 2 MMBTU/hour flare burner shall not exceed 0.005 pounds per ton of steel, and 0.675 pounds per hour, based on a 3-hour block average.

(f) The opacity from the vacuum degasser stack (500) shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9). This limitation satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

(g) The collateral $PM/PM_{10}$ (filterable plus condensable) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.0076 pounds per MMBTU. The $PM/PM_{10}$ emissions from the 2 MMBTU/hour flare burner shall not exceed 0.008 grain per dry standard cubic foot, and 0.45 pounds per hour, based on a 3-hour block average.

D.1.4 Preventive Maintenance Plan (PMP) [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan (PMP) of this permit, is required for the vacuum degasser and its associated control device, a flare.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.1.5 Control Equipment Operation [326 IAC 2-2]

Pursuant to PSD SSM 107-21359-00038, issued April 27, 2006, the flare shall be in operation and control carbon monoxide (CO) emissions at all times when the vacuum degasser is under negative pressure.

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11] [326 IAC 2-2]

Pursuant to PSD SSM 107-21359-00038, issued April 27, 2006:

(a) Within 60 days after achieving the maximum production rate, but no later than 180 days after initial start-up of the vacuum degasser and enclosed flare, the Permittee shall perform carbon monoxide (CO) testing on stack 500 to show compliance with Conditions D.1.1(b) and D.1.3(d).

(b) These tests shall be performed using methods as approved by the Commissioner.

(c) Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.7 Flare Operating Parameters [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The flare for the carbon monoxide (CO) emissions reductions shall be operated with a flame present at all times when the vacuum degasser is under negative pressure.

(b) The presence of a flare pilot flame shall be monitored when the vacuum degasser is under negative pressure using a thermocouple or any equivalent device to detect the presence of the flame.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.1.8 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) The Permittee shall maintain records of testing performed pursuant to D.1.6 and records documenting that the flare was operated at all times when the vacuum degasser was under negative pressure to demonstrate compliance with D.1.7 at the source in a manner that they may be inspected by the IDEM, OAQ, or the US EPA, if so requested or required.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

## SECTION D.2 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**CASTRIP – LOW NOx BOILER**

(b) One (1) natural gas fueled low-$NO_x$ boiler, identified as Boiler ID No. 501, constructed in 2004, a heat input capacity of 71.04 MMBtu/hour, utilizing low-NOx burners, and exhausting to Stack 501. This boiler provides steam to the vacuum degasser. Propane will be used as back up fuel.

Under 40 CFR Part 60, Subpart Dc, this unit is considered a steam generating unit.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.2.1 Boiler ID No. 501 PSD BACT Limits [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall comply with the following Best Available Control Technology (BACT) requirements for Boiler ID No. 501:

(a) Boiler ID No. 501 shall use natural gas as primary fuel and propane as backup fuel.

(b) The nitrogen oxides ($NO_x$) emissions from Boiler ID No. 501 shall not exceed 0.035 pounds per MMBtu.

(c) The carbon monoxide (CO) emissions from Boiler ID No. 501 shall not exceed 0.061 pounds per MMBtu.

(d) The volatile organic compound (VOC) emissions from Boiler ID No. 501 shall not exceed 0.0026 pounds per MMBtu.

(e) The sulfur dioxide ($SO_2$) emissions from Boiler ID No. 501 shall not exceed 0.0006 pounds per MMBtu.

(f) The $PM/PM_{10}$ (filterable and condensible) emissions from Boiler ID No. 501 shall not exceed 0.0076 pounds per MMBtu.

D.2.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from Boiler ID No. 501 shall be limited to 0.30 pounds per MMBtu heat input.

This limitation is based on the following equation:

$Pt = 1.09 / Q^{0.26}$ where Pt = Pounds of PM emitted per million Btu (lb/MMBtu) heat input, and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu per hour) heat input.

(Q = 34.0 + 15.0 + 9.0 + 9.98 + 71.0 = 139.02)

D.2.3 Preventive Maintenance Plan (PMP) [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B – Preventive Maintenance Plan (PMP) of this permit, is required for Boiler ID No. 501.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.2.4 Low $NO_x$ Burners [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall equip and operate Boiler ID No. 501 with natural gas fueled low $NO_x$ burners and perform good combustion practices.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.2.5 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall keep records of fuel used each calendar month by Boiler ID No. 501, including the types of fuel and amount used.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

**SECTION D.3 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**
**CASTRIP – PREHEATERS, DRYERS, AND ALLOY UNLOADING**

(c) One (1) natural gas fueled ladle preheater, identified as LP-3, constructed in 2004, to be modified in 2006, with a heat input capacity of 12 MMBtu/hour utilizing low NOx burners, emissions uncontrolled, and exhausting to a roof monitor (S-21, also identified as 105,106). Propane will be used as back up fuel.

(d) Two (2) natural gas-fired ladle preheaters, identified as LP-1 and LP-2, each constructed in 2002, to be modified in 2006, with a heat input capacity of 12 MMBtu/hour each, utilizing low-NOx burners, and the capability to utilize propane as a backup fuel. The preheaters exhaust to roof monitor S-21.

(e) Two (2) natural gas-fired tundish preheaters, identified as TP-1 and TP-2, constructed in 2002, to be modified in 2006, with a heat input capacity of 10 MMBtu per hour each, utilizing oxy-fuel burners, and have the capability to utilize propane as a backup fuel. Emissions exhaust to LMS baghouse stack S-20.

(f) Two (2) natural gas-fired tundish nozzle preheaters identified as TNP-1 and TNP-2, to be modified in 2006. Each tundish nozzle preheater shall be equipped with low-NOx burners, shall not exceed a maximum heat input rate of 2 MMBtu per hour, and has the capability to utilize propane as a backup fuel. Combustion emissions exhaust to the LMS baghouse stack identified as S-20.

(g) Three (3) natural gas-fired tundish dryers, identified as TD-1, TD-2, and TD-3, constructed in 2002, to be modified in 2006, with a maximum heat input capacity of 4 MMBtu per hour, 3 MMBtu per hour, and 1 MMBtu per hour, respectively, utilizing low-NOx burners, and having the capability to utilize propane as a backup fuel. Emissions exhaust to roof monitor S-21.

(h) Two (2) natural gas-fired transition piece preheaters, identified as TPP-3 and TPP-4, and two (2) natural gas-fired transition piece dryers, identified as TPD-1 and TPD-2, constructed in 2002, to be modified in 2006. The two (2) transition piece preheaters have a heat input capacity of 2 MMBtu per hour each for a combined total capacity of 4.0 MMBtu per hour, the two (2) transition piece dryers have heat input capacity of 0.15 MMBtu per hour each, utilizing low-NOx burners. The preheaters exhaust to baghouse stack S-20. The dryers exhaust to roof monitor S-21. The preheaters are used in the tundish operation located on the caster deck. The transition piece preheaters and transition piece dryers utilize propane as a backup fuel.

(i) Associated VTD alloy unloading, storage and feed systems, identified as AU-2, controlled by baghouses AU-2b and AU-2c, constructed in 2005, approved for modification in 2008, and consisting of:

(1) One (1) alloy truck dump station.

(2) Truck unloading/conveyors.

(3) Storage hoppers, all exhausting to a common bin vent, rated at 0.01 grains per dry standard cubic foot, into the building.

Alloy unloading is performed in a 3-sided building along the side of the existing Castrip building. Emissions exhaust to the atmosphere.

(4) One (1) bulk lime storage silo, with a capacity of 70 tons and a loading rate of 25 tons per hour, with a baghouse venting to stack AU-2a.

**Facility Description [326 IAC 2-7-5(15)] continued:**

(5) One (1) totally enclosed screw auger system for the bulk lime storage silo with a loading rate of 30 tons per hour.

(j) Dumping, storage, and transfer operations of alloy raw materials for the strip caster plant, identified as AU-1 and constructed in 2002.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.3.1 Nitrogen Oxides ($NO_X$) Emission Limitations

(a) Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the small combustion units consisting of ladle preheaters LP-1, LP-2, and LP-3, tundish dryers TD-1, TD-2, and TD-3, and the transition piece dryers TPD-1 and TPD-2, shall comply with the following requirements:

(1) Each combustion facility shall utilize “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel; and

(2) The following combustion facilities shall vent to S-21 roof monitor:

| Combustion Facility | No. Units | Each Unit’s Max Heat Input Rate (MMBtu/hr) | Burner Type (or equivalent) | Stack |
|---|---|---|---|---|
| Ladle Preheaters LP-1, LP-2, and LP-3 | 4 | 12 | Low-NOx | S-21 |
| Tundish Dryer TD-1 | 1 | 4 | Low-NOx | S-21 |
| Tundish Dryer TD-2 | 1 | 3 | Low-NOx | S-21 |
| Tundish Dryer TD-3 | 1 | 1 | Low-NOx | S-21 |
| Transition Piece Dryers TPD-1 and TPD-2 | 2 | 0.15 | Low-NOx | S-21 |

(b) Pursuant to 326 IAC 2-2-3 (PSD BACT) and PSD SSM 107-21359-00038, issued April 27, 2006, the BACT for NOx from the tundish dryers identified as TD-1, TD-2, TD-3, and each transition piece dryer identified as TPD-1 and TPD-2 shall be proper equipment operation, the use of low NOx burners, and NOx emission rate shall not exceed an emission rate of 0.10 pounds per MMBtu. Further, the hourly NOx emission rate shall not exceed 0.40, 0.30, and 0.10 lbs per hour for emission units TD-1, TD-2, and TD-3, respectively, and the hourly NOx emission rate shall not exceed 0.015 lbs per hour for each transition piece dryer identified as TPD-1 and TPD-2.

(c) Pursuant to 326 IAC 2-2-3 (PSD BACT) and PSD SSM 107-21359-00038, issued April 27, 2006, the BACT for NOx from each ladle preheater identified as LP-1, LP-2, and LP-3 shall be proper operation and shall not exceed a NOx emission rate of 0.10 pounds per MMBtu and 1.2 lbs per hour.

D.3.2 Sulfur Dioxide ($SO_2$) Emission Limitations

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the combustion units specified in Condition D.3.1(a) shall utilize "good combustion practices", utilize "pipeline quality" natural gas as the primary fuel and may utilize propane as a backup fuel. The combustion units shall comply with the following requirements:

(a) BACT for $SO_2$ from the tundish dryers identified as TD-1, TD-2, and TD-3 and each transition piece dryer identified as TPD-1 and TPD-2 shall be proper operation and shall not exceed a $SO_2$ emission rate of 0.0006 pounds per MMBtu. Further, the hourly $SO_2$ emission rate shall not exceed 0.0024, 0.0018, and 0.0006 lbs per hour for emission units TD-1, TD-2, and TD-3, respectively, and the hourly $SO_2$ emission rate shall not exceed 0.0001 lbs per hour for each transition piece dryer identified as TPD-1 and TPD-2.

(b) BACT for $SO_2$ from each ladle preheater identified as LP-1, LP-2, and LP-3 shall be proper operation and shall not exceed a $SO_2$ emission rate of 0.0006 pounds per MMBtu and 0.007 lbs per hour.

D.3.3 Carbon Monoxide (CO) Emission Limitations

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the combustion units specified in Condition D.3.1(a) shall utilize "good combustion practices", utilize "pipeline quality" natural gas as the primary fuel and may utilize propane as a backup fuel, and comply with the following requirements:

(a) BACT for CO from the tundish dryers identified as TD-1, TD-2, and TD-3 and each transition piece dryer identified as TPD-1 and TPD-2 shall be proper operation and shall not exceed a CO emission rate of 0.084 pounds per MMBtu. Further, the hourly CO emission rate shall not exceed 0.336, 0.252, and 0.084 lbs per hour for emission units TD-1, TD-2, and TD-3, respectively, and the hourly CO emission rate shall not exceed 0.013 lbs per hour for each transition piece dryer identified as TPD-1 and TPD-2.

(b) BACT for CO from each ladle preheater identified as LP-1, LP-2, and LP-3 shall be proper operation and shall not exceed a CO emission rate of 0.084 pounds per MMBtu and 1.01 lbs per hour.

D.3.4 Particulate Matter (PM/PM10) Emission Limitations

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the combustion units specified in Condition D.3.1(a) shall utilize proper operation, utilize "pipeline quality" natural gas as the primary fuel, and may utilize propane as a backup fuel, and shall comply with the following requirements:

(a) BACT for PM/PM10 (filterable plus condensable) from the tundish dryers identified as TD-1, TD-2, TD-3 and each transition piece dryer identified as TPD-1 and TPD-2 shall be utilization of "good combustion practices" and shall not exceed a PM/PM10 (filterable plus condensable) emission rate of 0.0076 pounds per MMBtu. Further, the hourly PM/PM10 (filterable plus condensable) emission rate shall not exceed 0.030, 0.023, and 0.008 lbs per hour for emission units TD-1, TD-2, and TD-3, respectively, and the hourly PM/PM10 (filterable plus condensable) emission rate shall not exceed 0.0011 lbs per hour for each transition piece dryer identified as TPD-1 and TPD-2.

(b) BACT for PM/PM10 (filterable plus condensable) from each ladle preheater identified as LP-1, LP-2, and LP-3 shall be utilization of "good combustion practices" and shall not exceed a PM/PM10 (filterable plus condensable) emission rate of 0.0076 pounds per MMBtu and 0.091 lbs per hour.

(c) The opacity from the LMS-2 roof monitor (S-21) shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9). Compliance with this limitation satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

D.3.5 Volatile Organic Compounds (VOC) Emission Limitations

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the combustion units specified in Condition D.3.1(a) shall utilize "good combustion practices", utilize "pipeline quality" natural gas as the primary fuel and may utilize propane as a backup fuel, and comply with the following requirements:

(a) BACT for VOC from the tundish dryers identified as TD-1, TD-2, and TD-3 and each transition piece dryer identified as TPD-1 and TPD-2 shall be proper operation and shall not exceed a VOC emission rate of 0.0054 pounds per MMBtu. Further, the hourly VOC emission rate shall not exceed 0.011, 0.016, and 0.005 lbs per hour for emission units TD-1, TD-2, and TD-3, respectively, and the hourly VOC emission rate shall not exceed 0.0035 lbs per hour for each transition piece dryer identified as TPD-1 and TPD-2.

(b) BACT for VOC from each ladle preheater identified as LP-1, LP-2, and LP-3 shall be proper operation and shall not exceed a VOC emission rate of 0.0054 pounds per MMBtu and 0.065 lbs per hour.

D.3.6 Nitrogen Oxide (NOx) Emission Limitation [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the combustion units consisting of tundish preheaters TP-1 and TP-2, transition piece preheaters TPP-3 and TPP-4, and tundish nozzle preheaters TNP-1 and TNP-2, shall comply with the following requirements:

(a) Each combustion facility shall utilize "good combustion practices", utilize "pipeline quality" natural gas as the primary fuel and may utilize propane as a backup fuel; and

(b) The following combustion facilities shall vent to LMS-2 Baghouse stack S-20:

| Combustion Facility | No. Units | Each Unit's Max Heat Input Rate (MMBtu/hr) | Burner Type (or equivalent) | Stack |
|---|---|---|---|---|
| Tundish Preheaters TP-1 and TP-2 | 2 | 10 | Oxy-Fuel | S-20 |
| Transition Piece Preheaters TPP-3 and TPP-4 | 2 | 2 | Low-NOx | S-20 |
| Tundish Nozzle Preheaters TNP-1 and TNP-2 | 2 | 2 | Low-NOx | S-20 |

D.3.7 VTD Alloy Handling PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the following BACT requirements apply to the VTD alloy unloading operations AU-2:

(a) The Permittee shall perform alloy unloading in a 3-sided building.

(b) The visible emissions from the alloy unloading shall not exceed 3% opacity, based on a 6-minute average.

(c) Except as otherwise provided by statute, rule, or this permit, the VTD material handling system bin vent filters for PM control shall be in operation and control emissions at all times the associated equipment controlled by the filters are in operation.

(d) In the event that filter failure is observed in a multi-compartment filter housing, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.3.8 Dumping, Storage, and Transfer Operations PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the emissions from dumping, storage, and transfer operations of raw materials identified as AU-1 shall not exceed five percent (5%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9). This limitation satisfies the opacity limitations required by 326 IAC 5.1 (Opacity Limitations).

D.3.9 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from alloy handling and dumping, storage, and transfer operations (AU-1 and AU-2) shall not exceed the pound per hour emission rates established as E in the following formulas:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.3.10 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) The Permittee shall maintain records of all vendor guarantees for all combustion units listed in this section to demonstrate compliance with Condition D.3.2.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

## SECTION D.4 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**CASTRIP – LMS, TUNDISH, AND CONTINUOUS STRIP CASTER**

(k) A strip caster line rated at a maximum steel production rate of 270 tons per hour consisting of:

(1) One (1) ladle metallurgy station, identified as LMS-2, constructed in 2002, to be modified in 2006, and maximum production capacity of 270 tons of steel per hour, and emissions captured by a side draft hood that has a PM capture efficiency of 99 percent and controlled by the LMS-2 baghouse, and exhausting to the LMS-2 baghouse stack identified as S-20. The remaining uncontrolled emissions shall be exhausted through the LMS-2 roof monitor identified as S-21. The LMS-2 baghouse has an enclosed dust handling system or equivalent for material recovery and particulate matter control.

(2) Tundishes, identified as T-1, constructed in 2002, to be modified in 2006, with a maximum production capacity of 270 tons of steel per hour. The two (2) natural gas-fired tundish preheaters, identified as TP-1 and TP-2 and the three (3) natural gas-fired tundish dryers, identified as TD-1, TD-2 and TD-3, supply heat to the tundish. Only one (1) tundish may be operated at a given time. The tundish in operation feeds the molten metal from the LMS-2 ladle to one (1) continuous strip caster identified as CS-1.

(3) One (1) continuous strip caster, identified as CS-1, constructed in 2002, to be modified in 2006, a maximum capacity of 270 tons of steel per hour, and emissions captured by a canopy hood that has a PM capture efficiency of 98 percent. The captured PM in the gas stream shall be controlled by the LMS-2 baghouse and the gas stream shall be exhausted though the LMS-2 baghouse stack identified as S-20. The remaining uncontrolled emissions shall be exhausted through the LMS-2 roof monitor identified as S-21.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.4.1 Particulate PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-21359-00038, issued April 27, 2006, the strip caster line (consisting of units LMS-2, T-1 and CS-1) shall comply with the following BACT requirements.

(a) The ladles associated with strip caster CS-1 shall be covered with lids which shall be closed at all times when transporting molten metal in the ladles outside a building in order to minimize uncontrolled emissions.

(b) Ladle Metallurgy Station LMS-2 shall be equipped with a side draft hood that evacuates particulate fumes from the LMS-2 to the LMS-2 baghouse. The side draft hood shall have a minimum capture efficiency of 99 percent.

(c) Tundish T-1 and continuous strip caster CS-1 shall be controlled by a canopy hood that evacuates particulate fumes to the LMS-2 baghouse. The hood shall have a minimum capture efficiency of at least 98 percent.

(d) The filterable PM/$PM_{10}$ emissions from the LMS-2 baghouse shall not exceed 0.0018 grains per dry standard cubic feet (gr/dscf) at a maximum volumetric air flow rate of 200,000 dry standard cubic feet per minute and 3.08 pound per hour.

(e) The filterable and condensable PM/$PM_{10}$ emissions from the LMS-2 baghouse shall not 0.0052 gr/dscf at a maximum volumetric air flow rate of 200,000 dry standard cubic feet per minute and 8.9 pound per hour.

(f) The opacity from the LMS-2 baghouse stack (S-20) shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9) when emitted from any baghouse, roof monitor or building opening. This limitation satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

(g) Except as otherwise provided by statute, rule, or this permit, the baghouses for PM control shall be in operation and control emissions at all times the associated equipment controlled by the baghouse are in operation.

(h) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.4.2 Nitrogen Oxide (NOx) PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-21359-00038, issued April 27, 2006, the total emissions from the Castrip LMS-2 baghouse stack (S-20) shall not exceed 0.19 pounds of NOx per ton of steel processed at the LMS-2.

D.4.3 Carbon Monoxide (CO) PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-21359-00038, issued April 27, 2006, the total emissions from the Castrip LMS-2 baghouse stack (S-20) shall not exceed 0.141 pound of CO per ton of steel processed at the LMS-2.

D.4.4 Sulfur Dioxide (SO2) PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-21359-00038, issued April 27, 2006, the total emissions from the Castrip LMS-2 baghouse stack (S-20) shall not exceed 0.210 pounds $SO_2$ per ton of steel processed at the LMS-2.

D.4.5 PSD BACT for Metals [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), and PSD SSM 107-24348-00038, the Permittee shall comply with the following BACT requirements:

(a) The Lead emissions from the Castrip, CS-1 shall be limited to 0.13 pound per hour, based on a 3-hour block average.

(b) The Mercury emissions from the Castrip, CS-1 shall be limited to 0.02 pound per hour, based on a 3-hour block average.

(c) The Beryllium emissions from the Castrip, CS-1 shall be limited to 0.002 pound per hour, based on a 3-hour block average.

(d) The Fluorides emissions from the Castrip, CS-1 shall be limited to 2.7 pounds per hour, based on a 3-hour block average.

The fluorides emissions from the Castrip shall be minimized by using granular Fluorspar, to minimize fluorides emissions and it shall be applied at an average rate of 250

pounds/heat or less at the Castrip.

(e) The emissions from the lead and mercury shall be minimized in accordance with the Scrap Management Program (SMP) in Condition D.29.10(c) and

(f) The emissions from the Castrip LMS-2, Tundish T-1, and continuous strip caster CS-1 shall be controlled by a baghouse.

D.4.6 Operation Limitations [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), and PSD SSM 107-21359-00038, issued April 27, 2006, the strip caster line shall not exceed a maximum steel throughput of 2,365,200 tons per twelve (12) consecutive month period. The Permittee shall demonstrate compliance with these steel processing limits based on a consecutive twelve (12) month period.

D.4.7 Preventive Maintenance Plan

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the LMS-2 and continuous strip caster CS-1 and the particulate capture and control systems associated with LMS-2 and CS-1.

**Compliance Determination and Monitoring**

D.4.8 Performance Testing [326 IAC 2-2] [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Pursuant to 326 IAC 2-1.1-11, 326 IAC 2-2, and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall perform PM, NOx, CO, and $SO_2$, compliance stack tests for the LMS-2 baghouse stack (S-20) within one hundred eighty (180) days of April 27, 2006.

(b) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct particulate testing to demonstrate compliance with the emission limitations in Condition D.4.1(e), using a modified EPA Method 5 of 40 CFR Part 60, Appendix A. Method 5 is modified to prevent the condensation of particulate matter after the filter, thereby facilitating the capture of all particulate matter fractions on the nozzle, probe and filter. The probe and filter temperature is maintained at or below 85 degrees Fahrenheit ($^0$F). The impinger temperature exit gas is maintained at or below 68 $^0$F for volumetric/gravimetric moisture determination. The nozzle, probe liner and glass filter holder are rinsed with acetone and captured in seal glass container.

(c) Pursuant to 326 IAC 2-1.1-11 and 326 IAC 2-2, the Permittee shall perform opacity compliance stack tests for the LMS-2 baghouse stack (S-20) within one hundred eighty (180) days of April 27, 2006.

(d) Opacity tests shall be performed concurrently with the particulate compliance stack test for the LMS-2 baghouse stack, unless meteorological conditions require rescheduling the opacity tests to another date.

(e) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct Lead, Mercury, Beryllium and Fluoride testing on the LMS-2 baghouse controlling the Castrip to demonstrate compliance with Condition D.4.5.

(f) The particulate testing required to demonstrate compliance with Condition D4.1(d) shall be performed utilizing 40 CFR Part 60, Appendix A, Method 5, Method 201 or Method 201A.

(g) All compliance stack tests shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration.

IDEM, OAQ retains the authority under 326 IAC 2-1-4(f) to require the Permittee to perform additional and future compliance testing as necessary. Testing shall be conducted in accordance with Section C – Performance Testing requirements.

D.4.9 Visible Emissions Notations

(a) Visible emission notations of the LMS-2 baghouse stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable steps in accordance with Section C – Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.4.10 Baghouse Parametric Monitoring

(a) The Permittee shall record the pressure drop across the LMS-2 baghouse used in conjunction with LMS-2 or CS-1, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once annually.

(b) The Permittee shall record the fan amperes of LMS baghouse fan at least once per day when the associated LMS or continuous strip caster is in operation. Unless operated under conditions for which Section C - Response to Excursions or Exceedances specifies otherwise, the fan amperes of the capture and control system shall be maintained within plus or minus 15% of the value established during the most recent compliant stack test. Section C - Response to Excursions or Exceedances for this unit shall contain troubleshooting contingency and response steps for when the fan amperes are more than 15% above or below the above-mentioned value for any one reading. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation of this permit.

The instrument used for determining the fan amperes shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once annually.

D.4.11 Broken or Failed Bag Detection

(a) For a single compartment baghouse-controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately

until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.4.12 Record Keeping Requirements

(a) To document compliance with Condition D.4.9, the Permittee shall maintain records of visible emission notations of the LMS baghouse stack exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document compliance with Condition D.4.10(a), the Permittee shall maintain once per day records of the total static pressure drop during normal operation and the reason for the lack of pressure drop notation (e.g. the process did not operate that day).

(c) To document compliance with Condition D.4.10(b), the Permittee shall maintain once per day records of the fan amperes during normal operation.

(d) To document compliance with Condition D.4.5(d), the Permittee shall maintain records of the amount of Fluorspar applied at the Castrip.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.13 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.4.6 shall be submitted to the address(es) listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

(b) The Permittee shall submit performance test protocols and performance test reports required by Operation Condition D.4.9 in accordance with the reporting requirements established in Section C - Performance Testing and Section C - General Reporting Requirements.

## SECTION D.5 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SILOS**

(a) Raw materials handling/storage, including silos which contain the following materials:

(1) One (1) lime silo TFS-1.

(2) Baghouse #1 lime silo (HRE #1).

(3) One (1) Iron Oxide Silo (IOS #1).

(4) Three (3) Baghouse Dust Silos (BHS#1, BHS#2, BHS#3).

(5) One (1) Soda Ash Silo (SAS #1) (this will become the sand silo).

(6) One (1) Iron Carbide Silo #1 (no longer in service).

(7) One (1) Lime Silo (#1 SEAF).

(8) One (1) Lime Silo (#2 SEAF).

(9) One (1) Lime Silo (#3 NEAF).

(10) One (1) Lime Silo (#4 NEAF).

(11) One (1) Injection Carbon Silo #1, with bin vent filter and capacity of 3,625 cubic feet, permitted in 2010 for construction.

(12) One (1) Injection Carbon Silo #2.

(13) One (1) Charge Carbon Silo #1.

(14) One (1) Charge Carbon Silo #2.

(15) Three (3) AOD alloy system silos (AOD#1, AOD#2, and AOD#3).

(16) Ten (10) Melt Shop Alloy Feed System silos (MS alloy #1, MS alloy #2, MS alloy #3, MS alloy #4, MS alloy #5, MS alloy #6, MS alloy #7, MS alloy #8, MS alloy #9, MS alloy #10).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.5.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the insignificant silos shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

## SECTION D.6 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**INSIGNIFICANT ACTIVITIES – CASTRIP – COILERS, COIL CUTTING, AND HOT ROLLING STAND**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(b) Two (2) coilers, identified as C-1 and C-2, constructed in 2002. Fugitive particulate emissions from this process are controlled by the application of water to the coilers and exhausting to the roof monitor S-21. These coil the steel strip from the continuous strip caster.

(c) Scrap coil cutting in the Castrip area, identified as CC-1, constructed in 2002, occurs on an as needed basis, controlled by the Castrip LMS Baghouse and exhausting to stack S-20.

(d) One (1) hot rolling stand, identified as HRS #, constructed in 2002. This stand rolls the steel strip from the continuous strip caster to the desired gauge. Fugitive particulate emissions controlled by the application of water to the steel strip, and exhausting to the LMS roof monitor identified as S-21.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.6.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the insignificant coilers, coil cutting, and hot rolling stand shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

D.6.2 Baghouse Operation [326 IAC 2-2]

(a) Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, and 326 IAC 2-2, the Castrip LMS Baghouse for particulate control shall be in operation and control emissions at all times that coil cutting is operating in the Castrip area.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

## SECTION D.7 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**SLAG PROCESSING**

(p) Slag processing, identified as EU-10, constructed in 1989, is performed by Whitesville Mill Service Company, an on-site contractor. Slag and other steel mill related materials are transported by slag pots or other mobile equipment, processed, and stockpiled with a maximum throughput of 305 tons/hr. This emission unit consists of storage piles (unprocessed and processed materials), grizzly feeding, slag processing (screening, conveying, and crushing), slag pot dumping, product loading for transport, and unpaved roads. The fugitive emissions from slag processing are controlled by water sprays and exhaust to the atmosphere.

Approved in 2011 for modification to add two (2) conveyors, identified as TSP-1 and TSP-5, replacement Screen identified as TSP-2 rated at 341 tons/hour, addition of a magnetic separator to a new conveyor belt exiting the Grizzly. Increase the capacity of screening process, TSP-8, consisting of three (3) screeners from a total of 305 tons/hr to a total of 447 tons/hr. Finally, the screened material will be conveyed into the remaining permitted EU10 operation which will increase utilization due to the increase in capacity of TSP-8.

One (1) crusher, TSP-6 with a maximum throughput rate of 100 tons per hour, approved in 2010 for construction and approved in 2011 to increase its capacity to 305 tons per hour.

(q) One (1) mill scale screen and conveyor system, identified as MSS-1, constructed in 2001, with a maximum throughput rate of 350 tons of mill scale per hour, with emissions uncontrolled, and exhausting to the atmosphere.

(r) Blend Plant, approved in 2011 for construction, with a maximum rated capacity of 305 tons per hour, which includes front end loaders identified as BP-1 and conveying system identified as BP-2, with fifty (50) slag storage piles. The Blend Plant will further process the various materials streams from the existing Slag Operation EU-10 to produce various blends of slag products. The Blend Plant will process any slag material that is not processed by Melt Solutions, the temporary screening plant or that is processed as slag chips.

(s) Temporary Screening Plant, approved in 2011 for construction, with maximum rated capacity of 60 tons per hour, powered by a 97 HP diesel generator, TSP-3. This screening plant will further screen the slag product from EU-10 to a smaller size for special applications. When this screen plant is not in operation this material will go to the Blend Plant.

(t) One (1) Coil and Scrap Cutting Operation, identified as CC-1, with particulate emissions controlled by a baghouse, utilizing one (1) 11 million British thermal units per hour (MMBtu/hr) torch unit to cut the coils and scrap, approved in 2011 for construction.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.7.1 PSD (Prevention of Significant Deterioration) - BACT [326 IAC 2-2]

(a) Pursuant to PSD 107-2764-00038, issued on November 30, 1993, the Fugitive Dust Control Plan (included as Attachment A to this permit), shall be implemented to control fugitive dust from paved roads, unpaved roads, parking lots, traveled open areas, and uncontrolled slag process and storage pile emissions. Adherence to the fugitive dust control plan is considered BACT.

(b) Pursuant to A 107-8255-00038 to PSD 107-2764-00038, issued November 30, 1993, and 326 IAC 2-2, the fugitive dust emissions from the various slag handling and processing operations shall be controlled in accordance with the Fugitive Dust Control Plan approved on March 28, 1999 (attached as Attachment A to this permit) such that the following opacity limitations are not exceeded at each point where such slag handling and processing operations occur:

| **Slag Handling/Processing Operation** | **Opacity Limitation*** |
|---|---|
| Transferring of skull slag to slag pot | 10% Opacity |
| Pouring of liquid slag from EAF or Caster to slag pots | 3% Opacity |
| Dumping of liquid slag from slag pot to slag pit and cooling | 3% Opacity |
| Transferring of skull slag from slag pot to skull pit | 5% Opacity |
| Digging skull slag pits | 5% Opacity |
| Digging slag pits | 3% Opacity |
| Stockpiling of slag adjacent to the grizzly feeder | 3% Opacity |
| Wind erosion of stockpiles | 3% Opacity |
| Crushing | 3% Opacity |
| Screening | 3% Opacity |
| Conveyor transfer points | 3% Opacity |
| Continuous stacking of processed slag to stockpiles | 3% Opacity |
| Loadout of processed slag from stockpiles to haul trucks for shipment | 3% Opacity |
| Inplant hauling of slag pots (filled) and processed slag | 3% Opacity |

*All opacity limitations are based on six (6) minute averages.

These emission limits are considered BACT.

D.7.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

Pursuant to MSM 107-15599-00038, issued April 10, 2002, the mill scale throughput rate to the mill scale screen and conveyor system (MSS-1) shall not exceed 1,092,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. Compliance with this limit is equivalent to less than or equal to 18.8 tons/yr of PM emissions and less than or equal to 9.0 tons/yr of PM10 emissions. Emissions from the 2002 modification limited to less than 25 tons per year of PM and 15 tons per year of PM10. Compliance with this limit renders the requirements of 326 IAC 2-2 not applicable.

D.7.3 Prevention of Significant Deterioration (PSD) Minor Limits for PM and PM10 Emissions [326 IAC 2-2]

(a) The PM and PM10 emissions from the following units shall not exceed the limits listed in the table below:

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| Replacement Crusher, TSP-6 | 2,671,800 | 0.00016 | 0.000072 |
| *Conveying Process with 10 drop points[1] | 2,671,800 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Screening Process, TSP-8 | 2,000,000 | 0.00075 | 0.00026 |
| EU-10 Slag 25 Drop Points[5] | 2,000,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Blend Plant Material handling Front-End Loader, BP-1 | 1,500,000 | 0.00026 | 0.00013 |
| Blend Plant Conveying Process (6 Drop Points)[2] | 1,500,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Temporary Screening Plant | 525,600 | 0.00075 | 0.00026 |
| Temporary Screening Conveying Process (6 Drop Points)[3] | 525,600 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Replacement Screen, TSP-2 | 2,000,000 | 0.00075 | 0.00026 |
| Conveying Process (5 drop points)[4] | 2,671,800 each drop point #1-#5 | 0.00009 each drop point #1-#5 | 0.000033 each drop point #1-#5 |

Note: * Drop points #5 through #10 in Conveying Process with 10 drop points[1] have more stringent throughput limit in EU-10 Slag 25 Drop Points[5]. Therefore, #5 through #10 drop points shall each have a throughput limit of 2,000,000 tons/yr.

The emission limits in lb/ton were based upon the uncontrolled EF (1-97%)

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4] Five drop points:
#1 metal separated by the new magnetic separator into pile #5
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6 and existing magnetic

separator #2 to pile #6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
#2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

(b) The PM and PM10 emissions from the Coil and Slag Cutting operation shall each not exceed 0.46 pound per hour.

(c) The Fugitive Dust Control Plan (included as Attachment A to this permit), shall be implemented to control fugitive particulate emissions from the Blending Plant (vehicular traffic, load-in and load-out of slag to 50 open storage piles and wind erosion from the 50 open storage piles).

Compliance with this condition including Conditions D.7.7 and D.32.1 shall limit the PM and PM10 emissions to less than 25 tons/year for PM and less than 15 tons/year for PM10, which renders the requirements of 326 IAC 2-2 (PSD) not applicable to source modification permitted under SSM No. 107-29766-00038.

D.7.4 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the mill scale screen and conveyor system (MSS-1) shall not exceed 64.8 pounds per hour when operating at a process weight rate of 350 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.7.5 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following facilities shall not exceed the pound per hour limit listed in the table below when running at the listed maximum process weight rates:

| Process/Facility | Process Weight Rate (tons/hour) | Particulate Emissions Limit (pounds/hour) |
|---|---|---|
| Existing Slag processing -EU-10 | | |
| Replacement Crusher, TSP-6 | 305 | 63.18 |
| **Conveying Process with 10 drop points[1] | 305 each drop point | 63.18 each drop point |
| Screening Process, TSP-8 | 447 | 67.6 |
| EU-10 Slag 25 Drop Points[5] | 447 each drop point | 67.6 each drop point |
| Grizzly | 305 | 63.18 |
| Blend Plant | | |
| Material handling, Front End-Loader, BP-1 | 305 | 63.18 |
| Blend Plant - 6 Conveying Drop Points[2] | 305 each drop point | 63.18 each drop point |
| Temporary Screening Plant | | |
| Temporary Screening Plant | 60 | 46.3 |
| Temporary Screening Plant - 6 Conveying Drop Points[3] | 60 each drop point | 46.3 each drop point |
| Coil and Scrap Cutting, CC-1 | 70 | 47.8 |
| Replacement Screen, TSP-2 | 341 | 64.5 |
| Conveying Process (5 drop points)[4] | 305 each drop point | 63.18 each drop point |

Note: **Drop points #5 through #10 in Conveying Process with 10 drop[1] shall use process weight rate of 447 tons/hour that is in EU-10 Slag 25 Drop Points[5]

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor, drop point #6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4]Five Drop Points:
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

D.7.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, is required for the Coil and Scrap Cutting, CC-1 and its control device. Section B – Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan.

**Compliance Determination Requirements**

D.7.7 PM/PM10 Emissions

Compliance with Condition D.7.2 shall be demonstrated within 30 days of the end of each month based on the total throughput weight for the most recent twelve (12) consecutive month period.

D.7.8 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Condition D.7.3(b) the Coil and Scrap Cutting, CC-1 shall be controlled by a baghouse at all times the Coil and Scrap Cutting, CC-1 is in operation.

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.7.9 Testing Requirements [326 IAC 2-1.1-11]

Not later than 60 days after achieving maximum production capacity, but no later than 180 days after initial startup of the Coil and Scrap Cutting operation (CC-1), the Permittee shall perform PM and PM10 testing on its baghouse to demonstrate compliance with its particulate emission limits in Condition D.7.3(b), utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every 2.5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.7.10 Particulate Matter (PM) Control [326 IAC 2-2] [326 IAC 6-3-2]

In order to ensure compliance with Conditions D.7.3 and D.7.5, the Permittee shall apply an initial application of water or a mixture of water and wetting agent weather permitting to control the PM and $PM_{10}$ emissions from the crushers, screens, and conveyors, such that the associated opacity limitations in Condition D.7.1 are not exceeded at each emission point where slag handling and processing operations occur.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.7.11 Visible Emissions Notations

(a) Visible emission notations of the exhausts from MSS-1 and CC-1 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable steps in accordance with Section C – Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.7.12 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the Coil and Scrap Cutting, CC-1 at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 11.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this permit. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once annually.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.7.13 Record Keeping Requirements

(a) To document the compliance status with Conditions D.7.2 and D.7.3, the Permittee shall maintain records of the throughput weight to the mill scale and EU-10 Slag emission units for each compliance period.

(b) To document the compliance status with Condition D.7.11 the Permittee shall maintain records of the once per day visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e. the process did not operate that day).

(c) To document the compliance status with Condition D.7.12, the Permitee shall maintain records of the once per day pressure drop reading. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(d) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

D.7.14 Reporting Requirements

A quarterly report of throughput weight to the mill scale and EU-10 Slag emission units and a quarterly summary of the information to document the compliance status with Conditions D.*7.2* and D.7.3 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).

## SECTION D.8 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**LINDE GASES PLANT**

(r) The LINDE Gases Plant is operated by LINDE Gases, an on-site contractor. It provides gases (oxygen, nitrogen, hydrogen, argon, and liquid air) consisting of:

(1) One (1) natural gas-fired boiler identified as ID No. 1, constructed in 1989, with a heat input capacity of 9 MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-36. This boiler uses propane as a backup fuel.

(2) One (1) natural gas-fired boiler, identified as ID No. 2, constructed in 1994, with a heat input capacity of 15.0 MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-37. This boiler uses propane as a backup fuel.

Under 40 CFR Part 60, Subpart Dc, this unit is considered a steam generating unit.

(3) One (1) natural gas-fired boiler, identified as the hydrogen plant boiler, constructed in 1996, with a heat input capacity of 9.98 MMBtu per hour, with Emissions uncontrolled, and exhausting to stack S-30. This boiler uses propane as a backup fuel.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.8.1 Preventive Maintenance Plan (PMP) [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B – Preventive Maintenance Plan (PMP), of this permit, is required for the facilities listed in this section.

D.8.2 LINDE Gases Boiler PSD BACT [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2 and PSD 107-5235-00038, issued June 20, 1996, the Permittee shall comply with the following BACT requirements:

(1) The 9.98 MMBtu per hour hydrogen plant boiler shall burn natural gas with propane as backup fuel.

(2) The NOx emissions from the 9.98 MMBtu per hour hydrogen plant boiler shall not exceed 100 pounds per million cubic feet of natural gas combusted.

(b) Pursuant to 326 IAC 2-2 and PSD 107-3702-00038, issued March 28, 1995:

(1) The 9.0 MMBtu per hour boiler (ID No. 1) and the 15.0 MMBtu per hour boiler (ID No. 2) shall burn natural gas with propane as backup fuel.

(2) The NOx emissions from the 15.0 MMBtu per hour boiler (ID No. 2) shall not exceed 140 pounds per million cubic feet of natural gas combusted.

(3) The NOx emissions from the 9.0 MMBtu per hour boiler (ID No. 1) shall not exceed 100 pounds per million cubic feet of natural gas combusted.

D.8.3 Particulate Matter Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-3, the particulate matter (PM) from:

(a) The 9.98 MMBtu per hour heat input hydrogen plant boiler shall be limited to 0.363 pounds per MMBtu heat input.

(b) The 9.0 MMBtu per hour heat input boiler (ID No. 1) shall be limited to 0.41 pounds per MMBtu heat input.

(c) The 15.0 MMBtu per hour heat input boiler (ID No. 2) shall be limited to 0.379 pounds per MMBtu heat input.

These limitations are based on the following equation:

$Pt = 1.09 / Q^{0.26}$ where Pt = Pounds of PM emitted per million Btu (lb/MMBtu) heat input, and
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu per hour) heat input.

The Q at the source at the time the hydrogen plant boiler was permitted:
(Q =34 + 9 +15 + 9.98 = 67.98)

The Q at the source at the time the Linde boiler No.1 was permitted:
(Q =34 + 9 = 43)

The Q at the source at the time the Linde boiler No.2 was permitted:
(Q =34 + 9 +15 = 58)

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.8.4 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [40 CFR Part 60 Subpart Dc]

(a) To demonstrate compliance with Condition D.8.2, the Permittee shall keep records of the fuel used each day by Boiler ID No. 2, including the types of fuel and amount used.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

## SECTION D.9 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

**INSIGNIFICANT ACTIVITIES – PAVED AND UNPAVED ROADS**

(e) Paved and unpaved roads and parking lots with public access. Transport on new and existing paved roadways and parking lots, unpaved roadways, and unpaved areas around existing raw material storage piles.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.9.1 PSD Requirements [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the paved surface silt loading shall not exceed 16.8 pounds of silt per mile and the average instantaneous opacity from paved roadways and parking lots shall not exceed ten percent (10%).

The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass.

The three (3) opacity readings for each vehicle pass shall be taken as follows:

(a) The first reading will be taken at the time of emission generation;

(b) The second reading will be taken five (5) seconds later; and

(c) The third reading will be taken five (5) seconds later or ten (10) seconds after the first reading.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and as close to approximately right angles to the plume as permissible under EPA Reference Method 9. Each reading shall be taken approximately four (4) feet above the surface of the paved roadway.

D.9.2 PSD Requirements [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the visible emissions from unpaved roadways and unpaved areas around raw material storage piles shall not exceed an average instantaneous opacity of ten percent (10%).

The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass.

The three (3) opacity readings for each vehicle pass shall be taken as follows:

(a) The first reading will be taken at the time of emission generation;

(b) The second reading will be taken five (5) seconds later; and

(c) The third reading will be taken five (5) seconds later or ten (10) seconds after the first reading.

The three (3) readings shall be taken at the point of maximum opacity.

The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and as close to approximately right angles to the plume as permissible under EPA Reference Method 9.

Each reading shall be taken approximately four (4) feet above the surface of the unpaved roadway.

D.9.3 PSD Requirements [326 IAC 2-2]

Pursuant to PSD 107-2764-00038, issued on November 30, 1993, the Fugitive Dust Control Plan (included as Attachment A to this permit), shall be implemented to control fugitive dust from paved roads, unpaved roads, parking lots, traveled open areas, and uncontrolled slag process and storage pile emissions.

Adherence to the fugitive dust control plan is considered a BACT requirement.

## SECTION D.10 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**PETROLEUM PRODUCT STORAGE**

(s) One (1) 500 gallon aboveground gasoline storage tank, identified as GST #1, installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

(t) Three (3) 500 gallon aboveground diesel storage tanks, identified as DST #1, DST #2, and DST #3, all installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

(u) One (1) 5,000 gallon aboveground diesel storage tank, identified as DST #4, installed in 1988, using submerged filling technology to control VOC emissions, which exhausts to the atmosphere.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.10.1 Petroleum Product Storage PSD BACT [326 IAC 2-2]

The petroleum product storage shall be limited as follows:

(a) Pursuant to 326 IAC 2-2 and PSD 107-2764-00038, issued November 30, 1993, amended August 11, 1999 via A 107-11154-00038, the one (1) 500 gallon aboveground gasoline storage tank (GST #1) shall use submerged filling technology to control VOC emissions.

(b) Pursuant to 326 IAC 2-2 and PSD 107-2764-00038, issued November 30, 1993, amended August 11, 1999 via A 107-11154-00038, the three (3) 500 gallon aboveground diesel storage tanks (DST #1, DST #2, DST #3) shall use submerged filling technology to control VOC emissions.

(c) Pursuant to 326 IAC 2-2 and PSD 107-2764-00038, issued November 30, 1993, amended August 11, 1999 via A 107-11154-00038, the one (1) 5000 gallon aboveground diesel storage tank (DST #4) shall use submerged filling technology to control VOC emissions.

(d) Pursuant to PSD 107-2764-00038, issued November 30, 1993, the visible emissions from each petroleum product storage tank shall not exceed 5% opacity, based on a 6-minute average.

## SECTION D.11 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COOLING TOWERS**

(v) The contact and noncontact cooling towers are equipped with drift eliminators. Each cooling tower exhausts to the atmosphere.

| Cooling Towers | No. of Cells | Capacity (gal/min) | Cooling Towers | No. of Cells | Average Capacity (gal/min) |
|---|---|---|---|---|---|
| Meltshop Non Contact | 9 | 60,000 | Galvanizing/Annealing Non Contact | 2 | 6,500 |
| Meltshop Caster Contact | 2 | 5,000 | Annealing Non Contact | 2 | 5,000 |
| Meltshop Caster Contact (expansion) | 2 | 5,000 | Castrip Contact | 4 | 12,000 |
| Hot Mill Contact | 4 | 16,383 | Castrip Non Contact | 7 | 14,400 |
| Hot Mill Contact (expansion) | 1 | 4,000 | | | |
| Hot Mill Non Contact | 4 | 25,319 | | | |
| Laminar Contact | 3 | 11,600 | LINDE Non Contact (CT-91B) | 2 | 3,200 |
| Cold Mill Non Contact | 2 | 10,000 | | | |
| Cold Mill Non Contact (expansion) | 1 | 5,000 | | | |
| Vacuum Degasser Contact | 1 | 8,000 | Vacuum Degasser Non Contact | 1 | 8,000 |

**INSIGNIFICANT ACTIVITIES – COOLING TOWERS**

(a) One (1) Non-Contact Cooling Tower, identified as CT-91A, with an average capacity of 900 gallons per minute (gpm), located at LINDE GASES PLANT, permitted in 2010 for construction.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.11.1 Cooling Towers PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2, PSD SSM 107-16823-00038, issued November 21, 2003, and PSD SSM 107-21359-00038, issued April 27, 2006, the Permittee shall comply with the following BACT requirements for the Castrip Contact, Castrip Non Contact, Vacuum Degasser Contact and Vacuum Degasser Non Contact cooling towers:

(a) The design drift rate from each cooling tower shall not exceed 0.005%.

(b) The Permittee shall retain records demonstrating that the cooling towers are designed to achieve 0.005% drift.

(c) The visible emissions from each cooling tower shall not exceed 20% opacity, based on a 6-minute average.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.11.2 Drift/Mist Eliminators [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, and PSD SSM 107-21359-00038, issued April 27, 2006, the integral drift/mist eliminators shall be in operation at all times that the Castrip Contact, Castrip Non Contact, Vacuum Degasser Contact and Vacuum Degasser Non Contact cooling towers are in operation.

## SECTION D.12 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

(w) Clean shred scrap plant, permitted for construction in 2009 consisting of the following:

(1) One (1) loading pan with a maximum design throughput rate of 300 tons per hour, loaded by batch drop from front end loader, crane or truck, controlled by water sprays.

(2) Three (3) magnetic sorters and associated conveyor belts with a maximum design throughput rate of 300 tons per hour, with a total of eighteen (18) drop points. Water sprays will be used at the first conveyor belt in quantities sufficient enough that no additional water is necessary at the remaining downstream drop points.

This additional clean shred scrap plant will be used to sort scrap and scrap substitutes. This will also increase the size of the scrap metal storage area. However, it will not increase steel production since it does not increase the amount of scrap that can be supplied to the EAFs for melting.

**INSIGNIFICANT ACTIVITIES – SCRAP HANDLING AND PROCESSING**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(f) Cutting of scrap metals and scrap substitutes. Except as authorized in Condition D.12.1(c) of this permit cutting of certain types of scrap should be performed indoors and exhaust to general ventilation.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.12.1 Scrap Cutting [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-16823-00038, issued November 21, 2003, the Permittee shall comply with the following BACT requirements:

(a) Skulls, coils and steel scrap shall be mechanically reduced in size. Any skull, coil, steel scrap not mechanically reduced in size can be lanced out or transported to the steel works building or another suitable building.

(b) Good working practices shall be observed.

(c) Scrap cutting allowed outdoors is limited to scrap items such as furnace roof, railroad cars, ductwork and long pieces of scrap, pipe and bar stock, that can not fit in the existing scrap cutting building. Galvanized scrap shall not be cut outdoors. Outdoor means the cutting is done outside of a building.

(d) The visible emissions from the building enclosing the scrap cutting operation shall not exceed 3% opacity based on a 6-minute average.

(e) The visible emissions from the outdoor scrap cutting operation shall not exceed 3% opacity based on a 6-minute average.

D.12.2 PM and PM10/PM2.5 Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

The Permittee shall comply with the following particulate emission limits at the clean shred scrap plant:

| Facility ID | Control ID | PM Emissions Limit (pound/hour) | PM10/PM2.5 Emissions Limit (pound/hour) |
|---|---|---|---|
| Sorters /Conveyors | Water application at initial transfer point | 2.01 | 0.52 |
| Loading pan | Water sprays | 1.4 | 0.53 |

Compliance with these limits shall render the requirements of 326 IAC 2-2, not applicable with respect to PM and PM10/PM2.5 emissions.

D.12.3 Particulate [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2, the particulate emissions from the clean shred scrap plant sorters/conveyors shall be limited to 63.0 pounds per hour at process weight rate of 300 tons per hour.

This limitation is based on the following equation:

$E = 55 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

(c) Pursuant to 326 IAC 6-3-2, the particulate emissions from the insignificant scrap cutting shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the following equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

**Compliance Determination Requirements** [**326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.12.4 Particulate Control for Clean Shred Scrap Plant

In order to comply with Condition D.12.2 and D.12.3, the Permittee shall apply water or use wet suppression system on the scrap prior to sorting in the clean shred scrap plant to control particulate emissions.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.12.5 Visible Emissions Notations

(a) Visible emission notations of the clean shred plant and scrap cutting shall be performed once per day when the clean shred plant is in operation or when scrap cutting is

performed in a building. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.12.6 Record Keeping Requirements

(a) The Permittee shall maintain records of the once per day visible emission notations required by Condition D.12.5.

(b) To document compliance with Condition D.12.1, the Permittee shall maintain records of the once per day visible emission notations notations from the scrap handling, processing, sorters and conveyors and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

## SECTION D.13 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**EMERGENCY GENERATORS**

(w1) Diesel fired generators and air compressors for power outages and emergencies.

(1) Cold Mill generator, identified as GEN #3, constructed in 1997, with a capacity of 280 HP, with emissions uncontrolled.

(2) Hot Mill NC Cooling Tower generator, identified as GEN #1, constructed in 1989, with a capacity of 2,100 HP, with emissions uncontrolled.

(3) Galv Line Pot generator, identified as GEN #4, constructed in 1992, with a capacity of 890 HP, with emissions uncontrolled.

(4) MS Cooling Tower Cold Well generator, identified as GEN #2, constructed in 1996, with a capacity of 2,520 HP, with emissions uncontrolled.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.13.1 Emergency Generators PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-16823-00038, issued November 21, 2003, the Permittee shall comply with the following BACT requirements:

(a) The emergency generators shall solely provide back up power when electric power is interrupted, or during maintenance or testing of generators.

(b) Each emergency generator shall not operate more than 500 hours per 12- consecutive month period with compliance demonstrated at the end of each month.

(c) The sulfur content of the diesel fuel used shall not exceed 0.05% by weight.

(d) Good combustion practices shall be performed.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.13.2 Record Keeping Requirements

(a) The Permittee shall maintain records of the hours of operation of each emergency generator.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit.

## SECTION D.14 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – FUEL DISPENSING FACILITIES**

(g) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles or other mobile equipment, having a storage capacity less than or equal to 10,500 gallons.

A petroleum fuel other than gasoline dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day, or less.

(1) One (1) 10,000 gallon diesel storage tank, handling less than 3,000 gallons per day.

(2) One (1) 1,000 gallon diesel storage tank handling less than 500 gallons per day.

(3) One (1) 500 gallon diesel storage tank, located at the NuPro Plant.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.14.1 Gasoline Dispensing Facilities [326 IAC 8-4-6]

(a) Pursuant to 326 IAC 8-4-6, the Permittee operating a gasoline dispensing facility shall not allow the transfer of gasoline between any transport and any storage tank unless such a tank is equipped with the following:

(1) A submerged fill pipe.

(2) Either a pressure relief valve set to release at no less than seven-tenths (0.7) pounds per square inch or an orifice of five-tenths (0.5) inch in diameter.

(3) A vapor balance system connected between the tank and the transport, operating according to the manufacturer's specifications.

(b) If the Permittee is not present during loading, it shall be the responsibility of the owner or operator of the transport to make certain the vapor balance system is connected between the transport and the storage tank and is operating according to the manufacturer's specifications.

## SECTION D.15 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – PICKLE LINES 1 AND 2**

(x) Both Pickle Lines use enhanced HCl pickling solution and rinse water and are equipped with process tanks.

(1) Pickle Line 1, identified as PL1, constructed in 1988, with a maximum capacity of 250 tons/hr, controlled by a counter flow-packed scrubber and mist eliminators, and exhausting to stack S-17. The Pickle Line 1 scrubber has a design flow rate of 12,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 1 is considered an existing continuous pickle line.

(2) Pickle Line 2, consisting of the following units:

(A) One (1) Pickle Line, identified as PL2, constructed in 1997, with a maximum capacity of 250 tons/hr, controlled by a tray scrubber and mist eliminators, and exhausting to stack S-18. The Pickle Line 2 scrubber has a design flow rate of 9,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 2 is considered an existing continuous pickle line.

(3) The tank farm treats the rinse water from Pickle Line 1 and Pickle Line 2. These tanks also store spent acid, raw acid, regenerated acid, oily wastewater treated waters for reuse, treatment process wastewater, and other process and treated waters.

Under 40 CFR Part 63, Subpart CCC, the tanks that store virgin or regenerated hydrochloric acid are considered new hydrochloric acid storage vessels.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.15.1 Pickling PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-16823-00038, issued on November 21, 2003, Pickle Lines 1 and 2 (PL1 and PL2) shall comply with the following BACT requirements:

(a) Each pickling line (PL1 and PL2) shall be controlled by its own scrubber and with an exhaust grain loading of no greater than 0.01 gr/dscf.

(b) Each tank shall operate with a closed vent system, covered by lids, and maintained under negative pressure, except during loading and unloading.

(c) Loading and unloading shall be conducted either through enclosed lines or each point shall be controlled.

(d) The visible emissions from each pickling line scrubber stack shall not exceed 5% opacity, based on a 6-minute average.

(e) Good working practices shall be observed, such as adjusting damper controls and settings on the fume systems.

D.15.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from Pickle Line 1 and Pickle Line 2 (PL1 and PL2) each shall not exceed 61.0 pounds per hour each when operating at process weight rates of 250 tons per hour each.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.15.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for Pickle Lines 1 and 2 (PL1 and PL2)) and their control devices.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.15.4 Scrubber Operation [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, 326 IAC 2-2 and as revised in this permit modification:

(a) The Pickle Line 1 (PL1) scrubber and mist eliminator shall be in operation and control emissions at all times that the Pickle Line 1 is in operation.

(b) The Pickle Line 2 (PL2) scrubber and mist eliminator shall be in operation and control emissions at all times that pickling is occurring at Pickle Line 2.

D.15.5 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-1.1-11]

(a) Pursuant to 40 CFR Part 63, Subpart CCC, and PSD SSM 107-16823-00038, issued November 21, 2003, and in order to demonstrate compliance with Condition D.15.1(a), the Permittee shall perform the following testing 2.5 years from the most recent valid compliance stack test of August 8, 2008 for the PL1 scrubber:

(1) Determine the collection efficiency of the control devices by simultaneously measuring mass flows of HCl at the inlet and outlet of the control devices, or

(2) Measure the HCl concentration in gases exiting the process or control devices.

(b) The Permittee shall perform compliance testing on the PL2 scrubber controlling the Purdue Pickle Line No. 2 within one hundred and eighty (180) days upon replacing the existing Purdue Pickle Line No. 2, scrubber PL2 to proposed replacement scrubber, the Permittee shall verify compliance with the following:

(1) Determine the collection efficiency the control devices by simultaneously measuring mass flows of HCl at the inlet and outlet of the control devices, or

(2) Measure the HCl concentration in gases exiting the process or control devices.

Testing shall be completed utilizing methods specified in 40 CFR Part 63, Subpart CCC or other methods as approved by the Commissioner.

(c) Any stack which has multiple processes which exhaust to the same stack shall operate all of the processes simultaneously in accordance with 326 IAC 3-5 (Source Sampling Procedures).

(d) These tests required in (a) (b) of this condition shall be repeated for the control devices associated with Pickle Line No. 1 and Pickle Line No. 2 at least once every 2.5 years from the date of a valid compliance demonstration.

(e) Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.15.6 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

## SECTION D.16 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – COLD REVERSING MILL 1, COLD MILL BOILER (CMB #1) AND NUPRO BOILER**

(y) Cold Reversing Mill 1, identified as EU-09, constructed in 1988, with a maximum capacity of 250 tons/hour. Emulsion oil is sprayed on the strip, controlled by hoods mounted on both sides of the mill stand and exhausting**,** through collision mist eliminators at a design flow rate of 84,000 acf/min and 0.01 gr/dscf, to stack S-32.

(z) One (1) natural gas fueled Cold Mill Boiler, identified as CMB#1, constructed in 1988, with a heat input capacity of 34 MMBtu per hour, with emissions uncontrolled and exhausting to stack S-19. The boiler uses propane as a backup fuel.

(z1) One (1) natural gas-fired NuPro boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.16.1 Cold Reversing Mill 1 PSD BACT Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-16823-00038, issued November 21, 2003, the Permittee shall comply with the following BACT requirements:

(a) The Cold Reversing Mill 1 (EU-09) shall not exceed its annual maximum capacity of 2,190,000 tons per twelve (12) consecutive month period with compliance demonstrated at the end of each month.

(b) The VOC emissions from the Cold Reversing Mill 1 (EU-09) shall not exceed 0.06 lb/ton of steel.

(c) The Cold Reversing Mill 1 shall comply with the following existing requirements specified in PSD 107-2764-00038, issued November 30, 1993:

(1) PM and $PM_{10}$ emissions from the Cold Reversing Mill 1 (EU-09) shall be captured by hoods mounted on both sides of the mill stand and evacuated to a panel-type media packed collision mist eliminator and filter prior to venting to the atmosphere.

(2) Filterable PM and filterable $PM_{10}$ emissions shall not exceed 0.01 gr/dscf, 7.2 pounds per hour, and 31.5 tons per year.

(3) The emissions from the Cold Reversing Mill 1 (EU-09) shall not exceed 5 percent opacity. Compliance with this condition shall be determined using 40 CFR 60 Appendix A, Method 9 and 326 IAC 5-1.

D.16.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the Cold Reversing Mill 1 (EU-09) shall not exceed 61.0 pounds per hour when operating at a process weight rate of 250 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.16.3 Cold Mill Boiler (CMB #1) PSD BACT [326 IAC 2-2]

Pursuant to PSD 107-2764-00038, issued November 30, 1993 and 326 IAC 2-2, the Permittee shall comply with the following BACT requirements for the Cold Mill Boiler (CMB #1) until it is modified as permitted by PSD SSM 107-16823-00038, issued November 21, 2003:

(1) The emissions shall not exceed 5 percent opacity. Compliance with this condition shall be determined using 40 CFR 60 Appendix A, Method 9 and 326 IAC 5-1.

(2) The Cold Mill Boiler (CMB #1) shall only use natural gas and propane as back-up fuel.

(3) The heat input shall not exceed 34.0 MMBtu per hour.

(4) PM/PM10 emissions shall not exceed 3.0 pounds per million cubic feet of natural gas burned, 0.1 pounds per hour and 0.4 tons per year.

(5) NOx emissions shall be controlled by the use of staged combustion low NOx burners, or their equivalent, and shall not exceed 200 pounds per million cubic feet of natural gas burned, 6.8 pounds per hour and 29.8 tons per year.

(6) CO emissions shall not exceed 35.0 pounds per million cubic feet of natural gas burned, 1.2 pounds per hour and 5.2 tons per year.

(7) VOC emissions shall not exceed 2.8 pounds per million cubic feet of natural gas burned, 0.1 pounds per hour and 0.4 tons per year.

D.16.4 Particulate Matter Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

(a) Pursuant to 326 IAC 6-2-4, the particulate matter (PM) from the 34.0 MMBtu per hour heat input Cold Mill boiler (CMB #1) shall be limited to 0.436 pounds per MMBtu heat input.

(b) Pursuant to 326 IAC 6-2-4, the PM emissions from the 10.9 MMBtu/hr NuPro Boiler shall be limited to 0.293 pound per MMBtu heat input.

These limitations are based on the following equation:

$Pt = 1.09 / Q^{0.26}$ where Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input, and
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu per hour) heat input.

The Q at the source at the time CMB #1 was permitted.
(Q = 34 MMBtu/hr)

The Q at the source at the time NuPro Boiler was permitted:
(Q = 34 + 9 +15 + 9.98 + 71.04 + 10.9 + 4.8 = 154.72)

D.16.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan (PMP) of this permit, is required for the facilities and control devices listed in this section.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.16.6 Mist Eliminators [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, the mist eliminators for particulate control shall be in operation and control emissions at all times that Cold Reversing Mill 1 (EU-09) is in operation.

D.16.7 Natural Gas Fuel [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, the Permittee shall use pipeline natural gas that is a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by the supplier through a pipeline.

Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.16.8 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [

(a) To document compliance with Condition D.16.1, the Permittee shall maintain monthly records of steel production.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.16.9 Reporting Requirements

A quarterly report of the information needed to document compliance with Condition D.16.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

## SECTION D.17 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – REVERSING AND TEMPERING (R/T) MILL**

(bb) Reversing and Tempering (R/T) Mill, (previously known as Temper Mill), identified as EU-14, constructed in 1995, with a maximum capacity of 250 tons of steel per hour, with emulsion oil sprayed on the strip, and controlled by hoods mounted on both sides of the mill stand and a fabric filter, exhausting through a panel-type collision mist eliminators to stack S-22. The panel-type collision mist eliminator has a design flow rate of 84,000 acf/min and an outlet grain loading of 0.01 gr/dscf. Note: This mill can reverse and temper. The mist eliminators operate as controls only when the mill is operating as a cold reversing mill.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.17.1 Reversing and Tempering (R/T) Mill PSD BACT [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, and 326 IAC 2-2, the Permittee shall comply with the following BACT requirements:

(a) The R/T Mill shall not exceed its annual maximum capacity of 2,190,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month on a rolling 12-month basis.

(b) This R/T Mill is allowed to reverse and temper.

(c) The VOC emissions from the R/T Mill shall not exceed 0.06 lb/ton.

(d) The visible emissions from the R/T Mill stack shall not exceed 5% opacity, based on a 6-minute average.

(e) The R/T Mill shall comply with the following requirements specified in PSD 107-3702-00038, issued March 28, 1995:

(1) When reversing, PM and PM10 emissions from the R/T Mill shall be captured by hoods mounted on both sides of the mill stand and evacuated to a panel-type media packed collision mist eliminator and filter prior to venting to the atmosphere.

(2) When reversing, filterable PM and $PM_{10}$ shall not exceed 0.01 gr/dscf, 7.2 pounds per hour, and 31.5 tons per year.

D.17.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the R/T Mill shall not exceed 61.0 pounds per hour when operating at a process weight rate of 250 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.17.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.17.4 Mist Eliminators [326 IAC 2-2]

Pursuant to PSD SSM 107-16823-00038, issued November 21, 2003, the mist eliminators for particulate control shall be in operation and control emissions at all times that the R/T Mill is in operation as a cold reversing mill.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.17.5 Record Keeping Requirements

(a) The Permittee shall maintain monthly records of the amount of steel processed in the R/T Mill.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.17.6 Reporting Requirements

A quarterly report of the information needed to document compliance with Condition D.17.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

## SECTION D.18 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – ALKALINE CLEANING STATION**

(cc) Alkali Cleaning at the Galvanizing line with mist eliminator as control. Emissions are exhausted to stack #510. The Alkaline Cleaning Station has a capacity of 140 tons of steel per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.18.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the Galvanizing Line Alkaline Cleaning Station shall not exceed 54.7 pounds per hour when operating at a process weight rate of 140 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.18.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the Galvanizing Line Alkaline Cleaning Station and the mist eliminators.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.18.3 Mist Eliminators [326 IAC 2-2]

The mist eliminators for particulate control shall be in operation and control emissions at all times that the Galvanizing Line Alkaline Cleaning Station is in operation.

## SECTION D.19 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – ANNEALING FURNACES**

(dd1) Eighteen (18) natural gas-fueled batch Annealing Furnaces, identified as EU-03, constructed in 2001. Each has a heat input capacity of 4.8 MMBtu per hour and a maximum throughput capacity of 200 tons of steel per hour. Emissions are uncontrolled and exhaust to roof vent (S-26).

(dd2) One (1) natural gas-fired annealing furnace, identified as AN-19, approved for construction in 2007, with a heat input capacity of 4.8 MMBtu per hour and a maximum throughput capacity of 200 tons of steel per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to roof vent (S-26).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.19.1 Annealing Furnace PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-21359-00038, issued April 27, 2006, the eighteen (18) batch annealing furnaces identified as EU-03 and constructed in 2001 shall comply with the following BACT requirements:

(a) Each batch annealing furnace shall be equipped and operated with low $NO_x$ burners.

(b) The $NO_x$ emissions from each annealing furnace shall not exceed 0.10 lb/MMBtu.

(c) The CO emissions from each annealing furnace shall not exceed 0.084 lb/MMBtu.

(d) The annealing furnaces shall use natural gas as primary fuel and may utilize propane as a back up fuel.

D.19.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from each of the nineteen (19) annealing furnaces in the Cold Mill shall not exceed 58.5 pounds per hour when operating at a process weight rate of 200 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.19.3 PSD Limit [326 IAC 2-2]

The input of propane to annealing furnace AN-19, combined with the input of propane to emission units LP #4, LP #7, TD #3, MD #1, MD #2, LDS #1, LP #1, LP #2, LP #3, and LP #5 (permitted in Section D.29) shall be limited to less than 1,089 thousand gallons of propane (LPG) per twelve consecutive month period, with compliance determined at the end of each month. NOx emissions shall not exceed 0.208 pounds per MMBtu when burning propane.

Compliance with this limit will ensure that the potential to emit from the modification performed under SSM 107-23609-00038 is less than forty (40) tons of NOx per year and will render the requirements of 326 IAC 2-2 (PSD) not applicable.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.19.4 Vendor Certification

The Permittee shall submit the vendor guarantees for the above-mentioned batch annealing furnace which is yet to be installed to demonstrate compliance with Operation Conditions D.19.1(a), (b), and (c).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.19.5 Record Keeping Requirements

(a) To document compliance with Condition D.19.3, the Permittee shall maintain records of the actual quantity of propane (LPG) used in annealing furnace AN-19. Records shall be taken monthly and shall be complete and sufficient to establish compliance with the limit established in Condition D.19.3. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.19.6 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.19.3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

## SECTION D.20 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – COLD MILL – QUALITY CONTROL/REWIND INSPECTION LINE**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(h) The unwinding and rewinding of steel coil for quality control inspections and the Cold Mill Quality Control Furnace.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.20.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Quality Control/Rewind Inspection Line shall not exceed 46.3 pounds per hour when operating at a process weight rate of 60 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

## SECTION D.21 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – ACID REGENERATION**

(ee) Acid Regeneration system, identified as EU-04, constructed in 1989, consisting of two natural gas fueled tangentially fired burners with a maximum rating of 5.6 MMBtu per hour, and an absorber and cyclone with emissions controlled by its own counter flow packed scrubber (identified as AR scrubber) with mist eliminator exhausting to stack S-31. The counter flow-packed scrubber has a design flow rate of 4,269 acf/min and loading of 0.04 gr/dscf. Propane is used as back up fuel.

Under 40 CFR Part 63, Subpart CCC, this unit is considered an existing acid regeneration plant.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.21.1 Acid Regeneration PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-24348-00038, the acid regeneration system (EU-04) shall comply with the following BACT limits:

(a) The two (2) tangentially fired burners shall burn natural gas as primary fuel and propane as back up fuel.

(b) The gas shall be cleaned in a cyclone, absorber, and a counter flow-packed scrubber prior to being vented to the atmosphere through the exhaust fan and stack.

(c) PM and $PM_{10}$ emissions shall be limited to 2.0 pounds per hour and 8.8 tons per year.

(d) $NO_x$ emissions shall be limited to 100 pounds per million cubic feet of natural gas burned, 0.56 pounds per hour, and 2.45 tons per year.

(e) CO emissions shall be limited to 84 pounds per million cubic feet of natural gas burned, 0.47 pounds per hour, and 2.06 tons per year.

(f) Volatile organic compound emissions shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.31 pounds per hour, and 1.35 tons per year.

(g) Visible emissions from the acid regeneration scrubber/control system shall not exceed 5% opacity, based on a 6-minute average.

D.21.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the acid regeneration system (EU-04) shall not exceed 11.6 pounds per hour when operating at a process weight rate of 4.75 tons per hour.

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour

D.21.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the acid regeneration system (EU-04) and its control devices.

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.21.4 Scrubber Operation

Pursuant to PSD 107-2764-00038, issued November 30, 1993, the counter flow-packed scrubber shall be in operation and control emissions at all times that the acid regeneration system (EU-04) is in operation.

D.21.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) Pursuant to PSD 107-16823-00038, issued November 21, 2003, the Permittee shall perform testing to measure the HCl and $Cl_2$ concentrations utilizing methods specified in 40 CFR Part 63, Subpart CCC or other methods as approved by the Commissioner. The testing shall be performed no later than November 4, 2006.

(b) Any stack which has multiple processes which exhaust to the same stack shall operate all of the processes simultaneously in accordance with 326 IAC 3-5 (Source Sampling Procedures).

(c) These tests shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration.

(d) Testing shall be conducted in accordance with Section C - Performance Testing.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.21.6 Scrubber Monitoring

(a) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. For the purposes of this condition, continuously means Permittee shall measure the flow rate no less often than once per minute and calculate the flow rate as a rolling 3-hour average. When for any one 3-hour average, the flow rate is below the minimum of 80 gallons per minute or the minimum established during the latest stack test, an alarm will notify Permittee and the Permittee shall take reasonable steps in accordance with Section C - Response to Excursions or Exceedances. A 3-hour average flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances, shall be considered a deviation from this permit.

In the event that the automatic alarm system fails for any reason, Permittee shall record the 3-hour average, if available, or instantaneous flow rate, every three hours. If the flow rate is below the minimum of 80 gallons per minute or the minimum established during the latest stack test, Permittee shall take reasonable steps in accordance with Section C - Response to Excursions or Exceedances. The use of this alternative shall be recorded but shall not be considered a deviation unless Permittee fails to correct the malfunction within a reasonable time.

(b) The instruments used for determining the flow rate shall comply with Section C – Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once a year.

D.21.7 Scrubber Detection

In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B

- Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.21.8 Record Keeping Requirements

(a) To document compliance with Conditions D.21.6 and D.21.7, the Permittee shall maintain records of:

(1) A representative 3-hour average flow rate recorded once per shift.

(2) Documentation of all reasonable response steps implemented for every 3-hour average flow rate reading outside of the normal range.

(3) Documentation of each instance in which the automatic alarm system in Condition D.21.6(a) is non-operational and Permittee manually records the flow rate every three hours. The Permittee shall maintain records of corrective actions taken and when the automatic alarm system is restored to operation.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.22 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**COLD MILL – GALVANIZING LINE/GALVANNEAL, CONTINUOUS ANNEALLING, PHOSPHATE AND CHROMATE APPLICATION**

(ff) Thirty six (36) Main Burners, identified as PHB #1 – PHB #36, constructed in 1992, and modified in 2002, input capacity of 1.622 MMBtu per hour each, and three (3) Auxiliary Burners, each with a heat input capacity of 0.1 MMBtu per hour in the preheat furnace section of the galvanizing line using natural gas rated at maximum total capacity of 58.7 MMBtu per hour. The burners use natural gas as primary fuel and propane as backup fuel. The main burners exhaust to stack S-27. The NOx emissions from PHB #1 – PHB #36 are controlled by a Selective Catalytic Reduction/Selective Non-Catalytic Reduction (SCR/SNCR) Systems. A continuous emissions monitor (CEM) is used to monitor NOx emissions. The galvanizing line has an electrostatic oiler. The three (3) Auxiliary Burners exhaust to the atmosphere.

(gg) Additional burners as follows:

(1) Forty four (44) Burners, identified as RB#1 – RB#44, constructed in 2002, each with a heat input capacity of 0.323 MMBtu per hour in radiant tube section with a maximum total capacity of 14.2 MMBtu per hour and option to replace non-conforming burners. The NOx emissions are controlled by a SCR System. The SCR/SNCR and SCR systems shall be referred to collectively as the SCR/SNCR system. The burners use natural gas as primary fuel and propane as backup fuel and exhaust to stack S-27.

(2) One (1) auxiliary burner with a maximum heat input of 3.2 MMBtu/hr in the Alkaline Cleaning Section. The burner is natural gas fired and use propane as backup.

(3) Two (2) auxiliary burners with a maximum heat input of 1.5 MMBtu/hr each in the Strip Dryer Section. The burners are natural gas fired and use propane as backup.

(4) Four (4) auxiliary burners with a maximum heat input of 0.052 MMBtu/hr each in the Pot Roll Heater. The burners are natural gas fired and use propane as backup.

(5) Two (2) emergency burners with a maximum heat input of 0.58 MMBtu/hr each in the Zinc Pot Section. The burners are natural gas fired and use propane as backup.

(6) Two (2) auxiliary burners with a maximum heat input of 0.013 MMBtu/hr each in the Preheat open end burners section. The burners are natural gas fired and use propane as backup.

The SCR/SNCR and SCR systems shall be referred to collectively as the SCR/SNCR system.

(hh) One (1) Zinc Coating pot, identified as ZP#1, constructed in 1992, with a maximum capacity of 140 tons of steel per hour, uncontrolled and exhausting to the atmosphere.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.22.1 Nitrogen Oxides (NOx) – PSD BACT [326 IAC 2-2-3]

(a) Pursuant to 326 IAC 2-2-3, Agreed Order 2000-8861-A, and PSD SSM 107-14297-00038, issued June 6, 2002, the total nitrogen oxide(s) (NOx) emissions from the 36 Main Burners, each at 1.622 MMBtu per hour and 3 Auxiliary Burners, each at 0.1 MMBtu per hour in the preheat furnace section of the galvanizing line shall not exceed 2.9 pounds per

hour which is equivalent to 50 pounds per million standard cubic feet of natural gas used on a twenty four (24) operating hour block average.

(b) Pursuant to 326 IAC 2-2-3, Agreed Order 2000-8861-A, and PSD SSM 107-14297-00038, issued June 6, 2002, the total nitrogen oxide(s) (NOx) emissions from the 44 Burners, each at 0.323 MMBtu per hour in the radiant tube section of the galvanizing line shall not exceed 2.8 pounds per hour which is equivalent to 200 pounds per million standard cubic feet of natural gas used on a twenty four (24) operating hour block average.

(c) During the Startup and Shutdown period, the SCR/SNCR operations are exempt from complying with the above limits for this duration. The Permittee shall not produce more than incidental product during the Startup and Shutdown period from the Galvanizing line.

(d) During the refractory lining drying period, the SCR/SNCR operations are exempt from complying with the above limits for this duration. The Permittee shall not produce more than incidental product during the refractory lining drying period from the Galvanizing line.

D.22.2 Particulate Matter (PM/PM-10) PSD BACT Limits [326 IAC 2-2-3]

(a) Pursuant to 326 IAC 2-2-3, the total, filterable and condensible PM/PM10 emissions from the 36 Main Burners, each at 1.622 MMBtu per hour, and the 3 Auxiliary Burners, each at 0.1 MMBtu per hour in the preheat furnace section of the galvanizing line shall not 7.6 pounds per million standard cubic feet of natural gas usage and use good combustion practices.

(b) Pursuant to 326 IAC 2-2-3, the total, filterable and condensible PM/PM10 emissions from the 44 Burners, each at 0.323 MMBtu per hour in the radiant tube section of the galvanizing line shall not exceed 7.6 pounds per million standard cubic feet of natural gas usage and use good combustion practices.

D.22.3 Carbon Monoxide (CO) – PSD BACT [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and PSD SSM 107-14297-00038, issued June 6, 2002, the CO emissions from the 36 Main Burners, each at 1.622 MMBtu per hour, the 3 Auxiliary Burners, each at 0.1 MMBtu per hour in the preheat furnace section, and 44 Burners, each at 0.323 MMBtu per hour in the radiant tube section of the galvanizing line shall not exceed 84 pounds per million standard cubic feet of natural gas usage using good combustion practices.

D.22.4 Volatile Organic Compounds (VOC) – PSD BACT [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and PSD SSM 107-14297-00038, issued June 6, 2002, the VOC emissions from the 36 Main Burners, each at 1.622 MMBtu per hour, the 3 Auxiliary Burners, each at 0.1 MMBtu per hour in the preheat furnace section, and 44 Burners, each at 0.323 MMBtu per hour in the radiant tube section of the galvanizing line shall not exceed 5.5 pounds per million standard cubic feet of natural gas usage using good combustion practices.

D.22.5 Ammonia Limitations [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-1.1-5 and PSD SSM 107-14297-00038, issued June 6, 2002, the ammonia emissions from the galvanizing line SCR systems stack shall not exceed twenty-five (25) ppmvd corrected to 15% $O_2$.

D.22.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, is required for the galvanizing line burners and their control device.

**Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.22.7 Nitrogen Oxides (NOx) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3, Agreed order 2000-8861-A, and PSD SSM 107-14297-00038, issued June 6, 2002, the SCR/SNCR on the preheat furnace and SCR on the radiant tube section of the Galvanizing line shall be in operation and control emissions from the burners at all times they are

in operation. The SCR/SNCR systems shall be operated as recommended by the manufacturer to minimize the NOx emissions and ammonia slip.

D.22.8 Oxides of Nitrogen NOx (SCR operation) [326 IAC 2-2]

From the date of the valid stack test, which was March 9, 2001, during a startup, the Permittee shall start urea injection in the SCR/SNCR unit to control NOx emissions from the galvanizing line, as soon as the catalyst bed reaches 500$^{o}$F, the optimum catalyst temperature determined during the March 9, 2001 stack test.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.22.9 Nitrogen Oxides (NOx) Emissions Monitoring [326 IAC 3-5] [326 IAC 7-2-1(g)]

Pursuant to 326 IAC 2-5.1-3 and 326 IAC 2-2:

(a) The Permittee shall install a continuous emissions monitoring system or alternative monitoring plan as allowed under the Clean Air Act and 326 IAC 3-5-1(d).

(b) The Permittee shall install, calibrate, certify, operate and maintain a continuous emissions monitoring system to monitor NOx emissions, in accordance with 326 IAC 3-5-2 through 326 IAC 3-5-7.

(1) The continuous emissions monitoring system (CEMS) shall measure the NOx emission rate in pounds per hour. The use of CEMS to measure and record the hourly NOx emission rates over a twenty-four (24) operating hour block averaging period is sufficient to demonstrate compliance with the limits established in the Conditions D.22.1(a) and D.22.1(b). The source shall maintain records of emission rates in pounds per hour.

(2) The Permittee shall submit to IDEM, OAQ, within ninety (90) days after the monitor installation, a complete written continuous monitoring standard operating procedure (SOP), in accordance with the requirements of 326 IAC 3-5-4.

(3) Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures pursuant to 326 IAC 3-5-5.

(4) The Permittee shall record the output of the system and shall perform the required record keeping, pursuant to 326 IAC 3-5-6, and reporting, pursuant to 326 IAC 3-5-7.

(5) The source may submit to the OAQ alternative emission factors based on the source's CEMS data (collected over one (1) season of operation; where a season is defined as the period of time from May 1 through September 30) and the corresponding site temperatures, to use in lieu of the vendor provided emission factors in instances of downtime. The alternative emissions factors must be approved by the OAQ prior to use in calculating emissions for the limitations established in this permit. The alternative emission factors shall be based upon collected monitoring and test data supplied from an approved continuous emissions monitoring system. In the event that the information submitted does not contain sufficient data to establish appropriate emission factors, the source shall continue to collect data until appropriate emission factors can be established.

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

D.22.10 Record Keeping Requirements

(a) To document compliance with Conditions D.22.1(a), D.22.1(b), and D.22.9, the Permittee shall maintain records of the continuous emission monitoring data in accordance with 326 IAC 3-5.

(b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements of this permit.

D.22.11 Reporting Requirements

The Permittee shall submit the following information on a quarterly basis:

(a) Records of excess NOx emissions (defined in 326 IAC 3-5-7 and 40 Part 60.7) from the continuous emissions monitoring system. These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C – General Reporting Requirements of this permit.

(b) A quarterly summary of the CEMs data used to document compliance with Conditions D.22.1(a) and D.22.1(b) shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

## SECTION D.23 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – WELDING**

(i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including the galvanizing line welder.

(j) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.23.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the brazing equipment, cutting torches, soldering equipment, welding equipment, and structural steel and bridge fabrication activities shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

## SECTION D.24 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – MISCELLANEOUS SHEARS AND SIDE TRIMMERS**

Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(k) Various shears located at various sites throughout the facility.

(l) Side trimmers located at various sites throughout the facility.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.24.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the shears and side trimmers shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

## SECTION D.25 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**HOT STRIP MILL & TUNNEL FURNACE SYSTEM**

(ii) The Hot Strip Mill, identified as HSM, constructed in 1989, with a maximum capacity of 502 tons/hour consisting of various rolling mill processes: Shearing, Descaling, Finishing, Rollout Table, Coilers, Skin Pass Mill and Roll Grinders. Parts of the Hot Mill Strip are controlled by water roll cooling.

(jj) Tunnel Furnace System, identified as EU-02, constructed in 1989, with a maximum capacity of 502 tons/hour, with a maximum total heat input capacity of 200 MMBtu per hour, emissions uncontrolled, tunnel furnace 1 exhausts to stack S13 and S14, tunnel furnace 2 exhausts to stack S15, and consisting of:

(1) Tunnel Furnace 1 – Natural gas fired with a heat input capacity of 84 MMBtu per hour. Tunnel Furnace 1 was constructed in 1989 as part of the original Tunnel Furnace System. Propane may be used as a backup fuel.

(2) Tunnel Furnace 2 – Natural gas fired with a heat input capacity of 84 MMBtu per hour. Tunnel Furnace 2 was constructed in 1994. Propane may be used as a backup fuel.

(3) Shuttle Furnaces 1 and 2 – Natural gas fired with a heat input capacity of 13 MMBtu per hour each using low NOx burners. Shuttle Furnaces 1 and 2 were constructed in 1994 and approved for a burner replacement in 2008. Propane may be used as a backup fuel.

(4) Snub Furnace – Natural gas fired with a heat input capacity of 6 MMBtu per hour. The snub furnace was constructed in 1989 and modified in 1994. Propane may be used as a backup fuel.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.25.1 Hot Strip Mill PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD 107-2764-00038, issued on November 30, 1993, revised by PSD SSM 107-16823-00038, issued November 21, 2003, the Hot Strip Mill (HSM) shall comply with the following BACT requirements:

(a) The rolling mill in the Hot Strip Mill shall be operated using water roll cooling sprays with any PM, in solid or liquid form, collected in flumes and transported to the scale pit.

(b) PM and PM10 emissions from the Hot Strip Mill process shall be limited to 0 pound per hour.

(c) Fugitive emissions generated at the Hot Strip Mill shall not exceed 0% opacity when emitted from any roof monitor or building opening, based on a 6-minute average.

(d) The VOC emissions from the Hot Strip Mill (HSM) shall not exceed 0.06 lb/ton of steel produced.

D.25.2 Tunnel Furnace System PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD 107-3702-00038, issued March 28, 1995, tunnel furnaces No. 1 and No. 2, shuttle furnaces No. 1 and No. 2, and the snub furnace, shall comply with the following requirements:

(a) NOx emissions from tunnel furnaces No. 1 and No. 2 shall be limited to 190 pounds per million cubic feet of natural gas burned.

(b) NOx emissions from shuttle furnaces No. 1 and No. 2 shall be limited to 100 lbs per million cubic feet of natural gas burned.

(c) Tunnel furnaces No. 1 and No. 2, shuttle furnaces No. 1 and No. 2, and the snub furnace shall burn natural gas as primary fuel and propane as back up fuel.

(d) Shuttle furnaces No. 1 and No. 2 shall be equipped and operated with low NOx burners.

Pursuant to 326 IAC 2-2 and PSD 107-5235-00038, issued June 20, 1996, the snub furnace shall comply with the following requirements:

(a) The NOx emissions from the snub furnace shall be limited to 190 lbs per million cubic feet of natural gas burned.

(b) The snub furnace shall be equipped and operated with low NOx burners.

D.25.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the Tunnel Furnace System (EU-02) shall not exceed 69.0 pounds per hour when operating at a process weight rate of 502 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

## SECTION D.26 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**HOT STRIP MILL – ANNEALING FURNACES**

(kk) Two (2) natural gas-fired annealing furnaces using propane as a backup fuel, identified as HM #1 and HM #2, each with a maximum heat input capacity of 14.505 MMBtu per hour, both constructed in 2006. Emissions are controlled by low NOx burners and exhaust to the atmosphere.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.26.1 Nitrogen Oxides (NOx) [326 IAC 2-7-5]

Pursuant to 326 IAC 2-7-5, MSM 107-21527-00038, issued September 23, 2005, and MPM 107-21907-00038, issued May 24, 2006:

(a) The input of the natural gas to the annealing furnaces shall be limited to less than 501.3 million cubic feet of natural gas per 12 consecutive month period, with compliance determined at the end of each month. NOx emissions shall not exceed 0.098 lb NOx/MMBtu.

(b) For purposes of determining compliance with the fuel usage limit, 5.22 thousand gallons of propane (LPG) shall be equivalent to one million cubic feet of natural gas.

(c) When combusting propane, NOx emissions shall not exceed 0.208 lb NOx/MMBtu.

D.26.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from each annealing furnace (HM #1 and HM #2) in the Hot Mill shall not exceed 59.0 pounds per hour when operating at a process weight rate of 210 tons per hour each.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.26.3 Record Keeping Requirements

(a) Actual type and quantity of fuel used (including gallons of propane, cubic feet of natural gas, and equivalent thousand gallons of propane LPG as million cubic feet of natural gas), since the last compliance determination period; and

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### D.26.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.26.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarterly period being reported.

## SECTION D.27 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – DEGREASING**

(m) Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21) consisting of: Degreasing operations, identified as DG, with a maximum throughput greater than 145 gallons per 12 months, uncontrolled and exhausting to the atmosphere.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.27.1 Cold Cleaner Operation [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2, the Permittee shall do the following with respect to unit DG:

(a) equip the cleaner with a cover;

(b) equip the cleaner with a facility for draining cleaned parts;

(c) close the degreaser cover whenever parts are not being handled in the cleaner;

(d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) provide a permanent, conspicuous label summarizing the operating requirements;

(f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate to the atmosphere.

**SECTION D.28 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**

**MELT SHOP – MATERIAL TRANSFER STATION**

(ll) Material transfer station #1, located inside the building exhausting to general ventilation, which will service both the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, scrap, scrap substitutes, and other alloys from rail cars. Railcars are unloaded to trucks, silos, or the meltshop alloy handling system. Identified as MT #1, constructed in 2003, and consisting of:

(1) Rail car bottom unloading through a rubber boot to a conveyor with emissions uncontrolled.

(2) One (1) totally enclosed conveyor, identified as MTC, constructed in 2003, with emissions controlled by a bin vent dust collector and exhausting to stack S-45.

(3) One (1) loading spout connected to the load truck with emissions uncontrolled.

(mm) Material transfer station #2, located inside the building and exhausting to the atmosphere, which services the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, scrap, scrap substitutes, and other alloys from rail cars. Railcars are unloaded to trucks, silos, or the meltshop alloy handling system. Identified as MT #2, constructed in 2006, and consisting of:

(1) Ten (10) storage silos, each controlled by individual bin vent filters or the Meltshop EAF baghouses (1 and 2).

(2) One (1) rail unloading operation under a roof.

(3) One (1) truck dumping station enclosed by a three sided building.

(4) One (1) loader dumping station enclosed by a three sided building.

(5) Associated enclosed conveyors.

(6) Storage bins.

(7) Misc. feed equipment and controls.

(mm1) Material transfer station #3, located outside, exhausting to the atmosphere, which services both the EAFs and the LMFs, used to transfer various types and grades of lime, carbon, foamy slag, and other alloys from rail cars. Rail cars are unloaded to trucks, which transfer materials to silos, or the meltshop alloy handling system. Identified as MT #3, and consisting of:

(1) Rail car bottom unloading through a rubber boot to a conveyor with emissions uncontrolled.

(2) One (1) totally enclosed conveyor, identified as MTC #2 with emissions controlled by a bin vent dust collector and exhausting to the atmosphere.

(3) One (1) loading spout connected to the load truck with emissions uncontrolled.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.28.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the material transfer station (MT #1) shall not exceed 55.4 pounds per hour when operating at a process weight rate of 150 tons per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.28.2 Particulate Control Equipment Operation [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and PSD SSM 107-16823-00038, issued November 21, 2003, amended via 107-21611-00038 issued August 24, 2005, each silo shall be controlled by the Meltshop EAF Baghouses (1 and/or 2) or individual bin vent filters, with the following specifications: each bin vent filter will have an outlet grain loading of 0.01 grains per dry standard cubic foot.

D.28.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B – Preventive Maintenance Plan, of this permit, is required for the material transfer station (MT #1) and its control devices.

**Compliance Determination Requirements**

D.28.4 Particulate Control

(a) The bin vent dust collector for particulate control shall be in operation and control emissions from the totally enclosed conveyor (MTC) at all times that the MTC is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

## SECTION D.29 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**MELTSHOP– ELECTRIC ARC FURNACES, ARGON OXYGEN DECARBURIZATION (AOD) VESSELS, DESULFURIZATION, CONTINUOUS CASTERS, EAF DUST TREATMENT FACILITY, LMFs, PREHEATERS AND DRYERS**

(nn) Two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, constructed in 1989 and approved for modification in 2007 to replace the furnace bottoms. EAF #1 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #2 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #1 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute and EAF #2 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute constructed in 1996, and approved for modification in 2003. Together the EAFs and the Argon Oxygen Decarburization (AOD) have a maximum capacity of 502 tons/hour, with emissions controlled by multi compartment reverse air type baghouses (identified as Meltshop Baghouse1 and Meltshop Baghouse2). In addition the EAFs have the following associated equipment:

(1) Seven (7) small charge buckets, five (5) buckets constructed in 1989 and two (2) charge buckets approved for construction in 2007.

(2) Three (3) additional large charge buckets used for single furnace charges on both EAFs, approved for construction in 2007.

(3) Twenty-five (25) EAFs ladles, twenty-one (21) constructed in 1989, four (4) ladles approved for construction in 2007.

(4) EAF charge handling currently utilizing two (2) overhead cranes with magnets and a conveyor to load charge buckets constructed in 1989 and approved for modification in 2007 with the addition of 2 new scrap cranes with magnetics, enhancement of existing cranes and/or magnetics, use of rail and/or truck dump and loader operations and the use of mobile cranes to load charge buckets in the scrap yard.

(5) Flux and alloy material handling system for direct feeding of alloys, lime, carbon, scrap substitutes and other related materials to the EAFs constructed in 1989 and approved for modification in 2007 with the addition of bulk loading of material to the system in a three-sided building.

A continuous emission monitor (CEM) is used to monitor NOx, CO, and $SO_2$ emissions from the EAFs.

Under 40 CFR Part 60, Subpart AAa, these units are considered electric arc furnaces.

(1) The EAFs also utilize the following technologies:

(A) A direct shell evacuation (DSE) control system ("a fourth hole duct"),

(B) An overhead roof exhaust system consisting of canopy hoods,

(C) Oxy fuel burners, and

**SECTION D.29 FACILITY OPERATION CONDITIONS**

(2) Each or any combination of the Meltshop EAFs and AOD can independently produce the maximum capacity of 502 tons/hour of steel. Each Meltshop EAF can operate concurrently or independently to achieve this maximum capacity.

(3) Both the Meltshop Baghouse1 and Meltshop Baghouse2 capture the emissions from the Meltshop EAFs, AOD vessel, Desulfurization, Meltshop Continuous Casters, the three (3) Ladle Metallurgy Furnaces (EU-13 (a), EU-13 (b) and EU-13 (c)) and other miscellaneous sources. Each Meltshop Baghouse can sufficiently control emissions independently.

(A) The Meltshop Baghouse1 is a multi compartment positive pressure baghouse, has a design air flow rate of 1,527,960 actual cubic foot/min (acf/min) and an outlet PM loading of 0.0018 grains/dry standard cubic foot (gr/dscf). This Meltshop Baghouse1 exhausts to a roof vent/monitor identified as vent BH1.

(B) The Meltshop Baghouse2 is a multi compartment positive pressure baghouse, has a design flow rate of 915,000 dscf/min and 1,200,000 acf/min and an outlet PM loading of 0.0018 gr/dscf. This Meltshop Baghouse2 exhausts to a stack identified as BH2.

(4) The fugitive emissions generated during the furnace operations are captured by the Meltshop Roof Canopies or contained within the Meltshop Building.

(5) The Meltshop roof monitors include exhausts from the ladle preheaters, ladle dryers, tundish preheaters, tundish dryers, ladle lancing station, tundish dumping, fugitive emissions from the LMFs, fugitive emissions from the Meltshop Casters and other Meltshop operations.

(oo) One (1) Argon oxygen decarburization (AOD) vessel, identified as AOD1, constructed in 1995. One (1) top lance for AOD1 rated at 300,000 cubic feet/hour of oxygen. Together the AOD and the Meltshop EAFs have a total maximum capacity of 502 tons/hour, with emissions controlled by the Meltshop Baghouse1 which exhausts to a roof vent/monitor identified as vent BH1, and Meltshop Baghouse2 which exhausts to stack BH2. One Argon-Oxygen Decarburization Dryout and Preheat Burner, constructed pursuant to CP 107-3599-00038, as revised by A107-4631-00038, September 28, 1995.

Under 40 CFR Part 60, Subpart AAa, AOD1 is considered an argon-oxygen decarburization vessel.

(pp) Desulfurization (DS) is an additional step in the Meltshop operations that remove sulfur. It has a maximum capacity of 502 tons of metal per hour.

(qq) Two (2) Meltshop Continuous Casters, identified as CC #1 and CC #2, CC #1 was constructed in 1989, CC #2 was constructed in 1994, with total maximum capacity of 502 tons/hour, with emissions controlled by the Meltshop EAF Baghouse1 identified as vent BH1 which exhausts to a roof vent/monitor or Meltshop EAF Baghouse2 which exhausts to stack BH2. The steam from the Meltshop Continuous Casters exhausts through stack S-11.

(rr) An EAF dust treatment facility, identified as DTF, constructed in 2004, with a capacity of 100,000 lb/hour, with emission control by bin vents for the silos, scrubber for dust treatment and baghouse for truck loading. Dust transfer will also occur inside the building.

Under 40 CFR Part 60, Subpart AAa, this unit is considered a dust handling system. Options for the dust transfer are:

(1) from silo to truck through a loading spout,

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(2) from silo to railcar through a loading spout,

(3) From silo to truck through a loading spout to transfer to the existing Meltshop Baghouses. Unloading from the truck at the existing Meltshop Baghouses also occurs in the building, transferring the dust through augers and a bucket elevator to the existing silo. In this option, the existing EAF dust treatment will have a maximum capacity of 100,000 lb/hr.

(4) Treating dust at the new silo and transferring to a truck. No loading spout is necessary because the material is no longer dusty, as treated.

The EAF dust treatment facility consists of the following:

(A) One (1) lime storage silo, identified as HRE #1, constructed in 1999, with a maximum capacity of 109 tons, emissions controlled by a bin vent filter, and exhausting to stack HR/E-2. Lime is pneumatically loaded to the silo at a maximum transfer rate of 40,000 pounds per hour.

(B) One (1) pugmill, identified as PM, constructed in 1999, with a maximum capacity of 100,000 pounds per hour, emissions controlled by one (1) venturi scrubber, and exhausting to stack HR/E-1. Lime is transferred to the pugmill via a screw conveyor system at a maximum transfer rate of 5,100 pounds per hour and EAF dust is transferred to the pugmill via gravity through an enclosed cone bottom loading spout at a maximum transfer rate of 100,000 pounds per hour.

(ss) Three (3) Meltshop Ladle Metallurgy Furnaces (LMFs)/Stirring Station, two (2) identified as EU-13 (a) and (b), constructed in 1988, and approved for modification in 2009 by ducting the exhaust to the Meltshop Baghouses 1 and 2; and one (1) LMF identified as EU-13 (c) approved for construction in 2007 with a maximum capacity of 502 tons/hour each. All three LMFs are controlled by the meltshop Baghouses 1 and 2. In addition the LMFs have the following associated equipment:

(1) Ladle Preheaters, identified as LP #1a through LP #6a and LD-1, consisting of:

(A) Three (3) natural gas-fired ladle preheaters, identified as LP #1a, LP #2a, and LP #3a, approved for construction in 2007, each with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(B) One (1) natural gas-fired AOD ladle preheater, identified as LP #4a, approved for construction in 2007, with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(C) One (1) natural gas-fired ladle preheater, identified as LP #5a, approved for construction in 2007, with a heat input capacity of 10 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(D) One (1) natural gas-fired ladle preheater, identified as LP #6, approved for construction in 2006, with a heat input capacity of 12 MMBtu/hour, utilizing low-NOx burners, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(E) One (1) natural gas-fired ladle preheater/dryer, identified as LD-1, approved for

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modification in 2007, with a heat input capacity of 10 MMBtu/hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(2a) Ladle Dryer, identified as LDS #1, constructed in 1989, consisting of a low NOx natural gas fired burner, with a heat input capacity of 5 MMBtu per hour. Emissions are uncontrolled and exhausting to stack 12.

(2b) One (1) natural gas-fired Ladle Dryer, identified as LDS #1a, approved for construction in 2007, with a heat input capacity of 5 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-12.

(3) Five (5) Tundish Preheaters, identified as TP1 - TP5, constructed in 1995, each with a heat input capacity of 6 MMBtu per hour, using propane as a backup fuel.

(4) Two (2) Tundish Dryout Stations, identified as TD #1 and TD #2. TD #1 was constructed in 1989, and TD#2 was constructed in 1990, each with a heat input capacity of 9 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(5) Four (4) Tundish Nozzle Preheaters, identified as TNP #1- #4, constructed in 1995, consisting of a low NOx natural gas fired Preheaters, each with a heat input capacity of 0.8 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(6) One (1) natural gas-fired tundish dryout station, identified as TD #3, approved for construction in 2007, with a maximum heat input capacity of 2.4 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(7) Two (2) natural gas-fired mandrel dryers, identified as MD #1 and MD #2, approved for construction in 2007, each with a heat input capacity of 1.5 MMBtu per hour, using propane as a backup fuel, with uncontrolled emissions exhausting to stack S-10.

(8) Fifteen (15) belt conveyors and 20 weight hoppers, with a maximum throughput of 200 tons per hour, approved for construction in 2007. These conveyors will supply lime, carbon and alloys to the new LMF EU-13(c)).

(9) Flux and alloy material handling system for direct feeding of alloys, lime, carbon, scrap substitutes and other related materials to the LMFs, constructed in 1988 and approved for modification in 2007 with the addition of a three-sided building for bulk loading of material to the system.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.29.1 Meltshop Baghouses PSD BACT [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), PSD/SSM 107-24348-00038, and PSD/SSM 107-26591-00038, the Permittee shall comply with the following BACT requirements:

(1) The Meltshop Baghouses (1 and 2) shall capture and control the emissions from the Meltshop EAFs, AOD vessels, Desulfurization station, Meltshop Continuous Casters and three (3) LMFs (EAF #1, EAF #2, AODs, DS, CC #1, CC #2, EU-13 (a), EU-13 (b) and EU-13 (c)).

(2) Steel production shall not exceed 4,397,520 tons of steel poured/tapped per 12-consecutive month period with compliance demonstrated at the end of each month.

(3) The total sulfur dioxide ($SO_2$) emissions from the Meltshop Baghouses (1 and 2), controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)) shall not exceed 0.33 pound per ton of steel produced and 167 pounds of $SO_2$ per hour, based on a 3-hour block average.

(4) The total nitrogen oxide ($NO_x$) emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)) shall not exceed 0.35 pounds per ton of steel produced and 175.7 pounds of $NO_x$ per hour.

(5) The total carbon monoxide (CO) emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)) shall not exceed 2.0 pounds per ton of steel produced and 1,004 pounds of CO per hour, based on a 3-hour block average.

(6) The total volatile organic compound (VOC) emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)**)** shall not exceed 0.09 pound per ton of steel produced and 45.18 pounds of VOC per hour, based on a 3-hour block average.

(7) Filterable particulate matter (PM) emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)) shall each not exceed 0.0018 grains/dscf.

(8) Filterable and condensible $PM_{10}$ emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs (EU-13 (a), EU-13 (b) and EU-13 (c)) shall each not exceed 0.0052 grains/dscf.

(9) The visible emissions from each Meltshop Baghouse shall not exceed 3% opacity, based on a 6-minute average.

(10) Visible emissions from the Meltshop Roof Monitors shall not exceed 5% opacity, based on a 6-minute average.

(11) Fugitive emissions generated at each EAF (EAF #1 and EAF #2) during each complete cycle from tap to tap shall not exceed 3% opacity when emitted from any roof monitor or building opening, based on a 6-minute average.

(12) Good working practices shall be observed such as following various tapping, melting and refining practices.

(b) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), the Permittee shall comply with the following BACT requirements:

(1) The Argon-Oxygen Decarburization (AOD) Dryout and Preheat Burner shall be limited as follows: 100 percent of all PM/PM10 fugitive emissions generated during the operation of the AOD Dryout and Preheat burner shall be captured by

the roof canopy in the North Furnace Bay or contained and collected within the North Furnace Bay.

(2) The AOD Dryout and Preheat Burner is limited solely to the use of natural gas and limited to 20.0 million Btu per hour heat input.

(3) That all equipment consuming natural gas as the fuel source shall be limited to the use of a propane-air mixture as the alternative backup source.

(4) NOx emissions shall be limited to 140 pounds per million cubic feet of natural gas burned, 2.8 pounds per hour, and 12.3 tons per year.

D.29.2 Operational Flexibility [326 IAC 2-2]

Pursuant to 326 IAC 2-2, and PSD/SSM 107-26591-00038, the Permittee shall comply with the following requirements:

(a) Each or any combination of the Meltshop EAFs and AOD (EAF #1, EAF #2, and AODs) may independently produce the maximum capacity of 502 tons/hour of steel. Each Meltshop EAF can operate concurrently or independently to achieve this maximum capacity.

(b) Each Meltshop Baghouse can sufficiently control emissions independently.

(c) The Meltshop Continuous Casters (CC #1 and CC #2) can cast molten steel either from the Meltshop LMFs, AOD, Castrip Vacuum Degasser or Castrip LMS.

D.29.3 Meltshop PSD BACT for Metals [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), PSD/SSM 107-24348-00038, and PSD/SSM 107-26591-00038, the Permittee shall comply with the following BACT requirements:

(a) The Lead emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) shall be limited to 0.24 pound per hour, based on a 3-hour block average.

(b) The Mercury emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) shall be limited to 0.08 pound per hour, based on a 3-hour block average.

(c) The Beryllium emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) shall be limited to 0.002 pound per hour, based on a 3-hour block average.

(d) The Fluorides emissions from the Meltshop Baghouses (1 and 2) controlling the two (2) EAFs, AOD, desulfurization station, two (2) Continuous Casters and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) shall be limited to 5.02 pounds per hour, based on a 3-hour block average.

The fluorides emissions from the EAFs and LMFs shall be minimized by using granular Fluorspar, to minimize fluorides emissions and it shall be applied at an average rate of 250 pounds/heat or less at each EAFs and at an average rate of 500 pounds/heat or less at each LMF.

(e) The emissions from lead and mercury shall be minimized in accordance with the Scrap Management Program (SMP) in Condition D.29.10(c) and

(f) The emissions from the Meltshop EAFs/AODs, desulfurization station, two (2) Continuous Casters and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) shall be controlled by a baghouse.

D.29.4 Meltshop EAF Dust and Alloy Handling/Treatment System PM and Opacity PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), the Permittee shall comply with the following BACT requirements:

(a) Visible emissions from the EAF Dust Handling System and the Treatment System (DTF) shall each not exceed 10% opacity, based on a 6-minute average.

(b) The AOD vessel alloy handling system emissions shall be captured by the Meltshop Roof Canopy.

D.29.5 Ladle Dryers PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD/SSM 107-24348-00038, the Ladle Dryers (LDS #1 and LDS #1a) shall comply with the following BACT requirements:

(a) The Ladle Dryers (LDS #1 and LDS#1a) shall only burn natural gas, except as specified below, and shall be limited to 5.0 million Btu per hour heat input, each.

(b) PM/PM10 shall be limited to 7.6 pounds per million cubic feet of natural gas burned, 0.076 pounds per hour (total), and 0.33 tons per year (total).

(c) NOx emissions shall be limited to 100 pounds per million cubic feet of natural gas burned, 0 1.0 pounds per hour (total), and 4.38 tons per year (total).

(d) CO emissions shall be limited to 84 pounds per million cubic feet of natural gas burned, 0.84 pounds per hour (total), and 3.6 tons per year (total).

(e) VOC emissions from shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.06 pounds per hour (total), and 0.24 tons per year (total).

(f) SO2 emission shall be limited to 0.6 lb per million cubic feet of natural gas burned, 0.006 pound per hour (total) and 0.026 ton per year (total).

(g) Visible emissions shall not exceed 5% opacity, based on a 6-minute average.

(h) The Ladle Dryer (LDS #1 and LDS #1a) shall only burn propane as a back-up fuel.

D.29.6 Ladle Preheaters PSD BACT [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD/SSM 107-24348-00038, the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall comply with the following BACT requirements:

(1) The six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall only burn natural gas, except as specified below. The six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall each be limited to 10.0 million Btu per hour heat input

(2) PM/PM10 emissions from each of the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall be limited to 7.6 pounds per million cubic feet of natural gas burned, 0.456 pounds per hour (total), and 2.0 tons per year (total).

(3) NOx emissions from each of the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall be limited to 100 pounds per million cubic feet of natural gas burned, 6.0 pounds per hour (total), and 26.3 tons per year (total).

(4) CO emissions from each of the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall be limited to 84 pounds per million cubic feet of natural gas burned, 5.04 pounds per hour (total), and 22.0 tons per year (total).

(5) VOC emissions from each of the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.33 pounds per hour (total), and 1.44 tons per year (total).

(6) $SO_2$ emissions from each of the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall be limited to 0.6 lb per million cubic feet of natural gas burned, 0.036 pounds per hour.

(7) The six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall only burn propane as a back-up fuel.

(8) Visible emissions from the six (6) Ladle Preheaters (LP#1a - #5a and LD-1) shall not exceed 5% opacity, based on a 6-minute average.

(b) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD SSM 107-21359-00038, issued on April 27, 2006, ladle preheater LP #6 shall comply with the following BACT requirements:

(1) The BACT for NOx shall be “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel, proper operation and shall not exceed a NOx emission rate of 0.10 pounds per MMBtu and 1.2 lbs per hour.

(2) The BACT for $SO_2$ shall be “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel, proper operation and shall not exceed a $SO_2$ emission rate of 0.0006 pounds per MMBtu and 0.007 lbs per hour.

(3) The BACT for CO shall be “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel, proper operation and shall not exceed a CO emission rate of 0.084 pounds per MMBtu and 1.01 lbs per hour.

(4) The BACT for PM/PM10 (filterable plus condensable) shall be “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel, proper operation and shall not exceed a PM/PM10 (filterable plus condensable) emission rate of 0.0076 pounds per MMBtu and 0.091 lbs per hour.

(5) The BACT for VOC shall be “good combustion practices”, utilize “pipeline quality” natural gas as the primary fuel and may utilize propane as a backup fuel, proper operation and shall not exceed a VOC emission rate of 0.0054 pounds per MMBtu and 0.065 lbs per hour.

(6) The opacity from stacks 7 and 8 shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9). Compliance with this limitation satisfies the opacity limitations required by 326 IAC 5-1 (Opacity Limitations).

(c) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD/SSM 107-24348-00038, the Tundish Nozzle Preheaterss (TPH1 through TPH4) shall comply with the following BACT requirements:

(1) The Tundish Nozzle Preheaters (TPH1 through TPH4) shall only burn natural

gas, except as specified below, and shall be limited to 0.8 million Btu per hour heat input each.

(2) PM/PM10 emissions from the Tundish Nozzle Preheaters (TPH1 through TPH4) shall be limited to 7.6 pounds per million cubic feet of natural gas burned, 0.02 pounds per hour (total).

(3) NOx emissions from the Tundish Nozzle Preheaters (TPH1 through TPH4) shall be limited to 100 pounds per million cubic feet of natural gas burned, 0.32 pounds per hour (total.

(4) CO emissions from the Tundish Nozzle Preheaters (TPH1 through TPH4) shall be limited to 84 pounds per million cubic feet of natural gas burned, 0.27 pounds per hour (total).

(5) VOC emissions from the Tundish Nozzle Preheaters (TPH1 through TPH4) shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.02 pounds per hour (total).

(6) SO2 emission from the Tundish Nozzle Preheaters (TPH1 through TPH4) shall be limited to 0.6 lb per million cubic feet of natural gas burned, 0.002 pounds per hour (total).

(7) Visible emissions shall not exceed 5% opacity, based on a 6-minute average.

(8) The Tundish Nozzle Preheaters (TPH1 through TPH4) shall only burn propane as a back-up fuel.

(d) Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD/SSM 107-24348-00038, the Tundish Preheaterss (TP1 through TP5) shall comply with the following BACT requirements:

(1) The Tundish Preheaters (TP1 through TP5) shall only burn natural gas, except as specified below, and shall be limited to 6.0 million Btu per hour heat input each.

(2) PM/PM10 emissions from the Tundish Preheaters (TP1 through TP5) shall be limited to 7.6 pounds per million cubic feet of natural gas burned, 0.23 pounds per hour (total).

(3) NOx emissions from the Tundish Preheaters (TP1 through TP5) shall be limited to 100 pounds per million cubic feet of natural gas burned, 3.0 pounds per hour (total).

(4) CO emissions from the Tundish Preheaters (TP1 through TP5) shall be limited to 84 pounds per million cubic feet of natural gas burned, 2.5 pounds per hour (total).

(5) VOC emissions from the Tundish Preheaters (TP1 through TP5) shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.165 pounds per hour (total).

(6) SO2 emissions from the Tundish Preheaters (TP1 through TP5) shall be limited to 0.6 lb per million cubic feet of natural gas burned, 0.02 pounds per hour (total).

(7) Visible emissions shall not exceed 5% opacity, based on a 6-minute average.

(8) The Tundish Preheaters (TP1 through TP5) shall only burn propane as a back-up fuel.

D.29.7 Tundish Dryout Station (TD #1) PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements) and PSD/SSM 107-24348-00038, the Tundish Dryout Stations (TD #1 and TD #2) shall comply with the following BACT requirements:

(a) The Tundish Dryout Station (TD #1 and TD #2) shall only burn natural gas, except as specified below, and shall be limited to 9.0 million Btu per hour heat input each.

(b) PM/PM10 shall be limited to 7.6 pounds per million cubic feet of natural gas burned, 0.14 pounds per hour (total), and 0.6 tons per year (total).

(c) NOx emissions shall be limited to 100 pounds per million cubic feet of natural gas burned, 1.8 pounds per hour (total), and 7.9 tons per year (total).

(d) CO emissions shall be limited to 84 pounds per million cubic feet of natural gas burned, 1.5 pounds per hour, and 6.6 tons per year (total).

(e) VOC emissions shall be limited to 5.5 pounds per million cubic feet of natural gas burned, 0.1 pounds per hour, 0.43 tons per year (total).

(f) SO2 emission shall be limited to 0.6 lb per million cubic feet of natural gas burned, 0.01 pounds per hour (total), and 0.05 tons per year (total).

(g) Visible emissions shall not exceed 5% opacity, based on a 6-minute average.

(h) The Tundish Dryout Stations (TD #1 and TD #2) shall only burn propane as a back-up fuel.

D.29.8 PSD Limit [326 IAC 2-2]

The combined input of propane to emission units TD #3, MD #1, and MD #2, combined with the input of propane to annealing furnace AN-19 (permitted in Section D.19) shall be limited to less than 1,089 thousand gallons of propane (LPG) per twelve consecutive month period, with compliance determined at the end of each month. NOx emissions shall not exceed 0.208 pounds per MMBtu when burning propane. Compliance with this limit will ensure that the potential to emit from the modification performed under SSM 107-23609-00038 is less than forty (40) tons of NOx per year and will render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.29.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP), in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the emission units identified in (nn), (oo), (pp), (qq), (rr), (ss) and their control devices of Section D.29 except for emission units identified in (nn)(1) through (5) and (ss)(1) through (9).

**Compliance Determination Requirements [326 IAC 2-1.1-11]**

D.29.10 Meltshop EAF PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), the Permittee shall comply with the following BACT requirements:

(a) Each EAF (EAF #1 and EAF #2) shall be equipped and operated with oxy fuel burners.

(b) Each EAF shall be controlled by a direct shell evacuation (DSE) system and canopy hoods.

(c) VOC emissions shall be controlled through an extensive scrap management program as follows:

(1) All grades of scrap charged to the furnaces shall not contain observable non-ferrous metals or non-metallics.

(2) All grades of scrap shall be free of excessive dirt, oil, and grease.

(3) Heavily oiled scrap shall not be used.

(d) Good work practices shall be observed.

D.29.11 Meltshop EAF Dust Handling System and Dust Treatment System PSD BACT [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements), the Permittee shall comply with the following BACT requirements:

(a) The EAF Dust Handling System (DTF) shall be equipped with bin vents on the silos.

(b) The Dust Treatment System shall be equipped with a scrubber on the dust system and shall incorporate baghouse(s) for evacuation on the truck loading buildings**.**

(c) Options for the dust transfer are:

(1) from silo to truck through a loading spout,

(2) from silo to railcar through a loading spout,

(3) from silo to truck through a loading spout to transfer to the existing Meltshop Baghouses. Unloading from the truck at the existing Meltshop Baghouses also occurs in the building, transferring the dust through augers and a bucket elevator to the existing silo. In this option, the existing EAF dust treatment will have a maximum capacity of 100,000 lb/hr.

(4) treating dust at the new silo and transferring to a truck. No loading spout is necessary because the material is no longer dusty, as treated.

(d) Dust transfer shall occur inside the building.

D.29.12 Particulate Control Equipment Operation [326 IAC 2-2]

(a) Pursuant to 326 IAC 2-2, either or both the Meltshop Baghouses (1 and 2) for particulate control shall be in operation and control emissions at all times that one or all of the EAFs, AOD vessel, Desulfurization station, Meltshop Continuous Casters and three (3) LMFs (EAF #1, EAF #2, AODs, DS, CC #1, CC #2 and EU-13 (a), EU-13 (b) and EU-13 (c)) are in operation.

(b) Pursuant to 326 IAC 2-2, the following particulate control shall be in operation and control emissions at all times when its corresponding process is in operation:

(1) bin vents for the silos,

(2) scrubber for dust treatment, and

(3) baghouse for truck loading building evacuation.

(c) Pursuant to 326 IAC 2-2, fugitive emissions generated during EAFs and AOD vessel operations (EAF #1, EAF #2, and AODs) shall be captured by the Meltshop roof canopies or contained and collected within the Meltshop EAF building.

D.29.13 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) No later than sixty (60) days from achieving maximum capacity or within one hundred and eighty (180) days after the initial start up of the LMFs (EU-13 (a), EU-13 (b) under the new process configuration permitted in PSD/SSM 107-26591-00038, the Permittee shall conduct a performance test on the Meltshop EAF Baghouses 1 and 2 (stack and vent), controlling the EAFs, AODs, Desulfurization Station, Continuous Caster and three (3) LMFs EU-13 (a), EU-13 (b) and EU-13 (c) for the following:

(1) Lead,

(2) Mercury,

(3) Fluorides

(4) Beryllium

(5) VOC

(b) For the Meltshop Baghouse1 and Baghouse2 stacks, the Permittee shall determine either:

(1) the control system fan motor amperes and all damper positions;

(2) the volumetric flow rate through each separately ducted hood; or,

(3) the volumetric flow rate at the control device inlet and all damper positions.

During all compliance demonstration testing.

(c) In order to demonstrate compliance with Conditions D.29.1 and D.29.3, the Permitee shall conduct performance test no later than sixty (60) days from achieving maximum capacity or within one hundred and eighty (180) days after the initial start up of the LMFs (EU-13 (a), EU-13 (b) under the new process configuration permitted in PSD/SSM 107-26591-00038, for opacity on the following emission points utilizing 40 CFR Part 60, Appendix A, Method 9, or other methods as approved by the Commissioner.

(1) Meltshop Baghouse1 roof monitor and Baghouse2 stack,

(2) Meltshop Roof monitor, and

(3) EAF Dust Handling System,

(d) The particulate testing required for condition D.29.1(a)(7) shall be performed utilizing 40 CFR Part 60, Appendix A, Method 5, Method 201 or 201A or other methods as approved by the Commissioner.

(e) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct particulate testing to demonstrate compliance with the emission limitations in Condition D.29.1(a)(8) shall be demonstrated by a modification of EPA Method 5 of 40 C.F.R. Part 60, Appendix A. Method 5 is modified to prevent the condensation of particulate matter after the filter, thereby facilitating the capture of all particulate matter fractions on the nozzle, probe and filter. The probe and filter temperatures are maintained at or below 85 degrees Fahrenheit. The impinger temperature exit gas is maintained at or below 68 degrees Fahrenheit for volumetric/gravimetric moisture determination. The nozzle, probe liner and glass filter holder are rinsed with acetone and captured in a sealed glass container.

(f) The PM, PM10, VOC, Mercury, Fluorides, Beryllium and Lead tests shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration.

(g) Compliance with the $SO_2$, NOx, and CO pounds per ton of steel produced emission limitations in Conditions D.29.1(a)(3) through D.29.1(a)(5) respectively, shall be performed by the use of applicable methods in 40 CFR Part 60, Appendix A or other method approved by the Commissioner. Compliance with the $SO_2$, NOx, and CO pounds per hour emission limitations in Conditions D.29.1(a)(3) through D.29.1(a)(5) respectively, shall be demonstrated by compliance with Condition D.29.14.

(h) The PM, PM10, VOC, Mercury, Fluorides, Beryllium and Lead tests shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration. The $SO_2$, NOx, and CO tests to demonstrate compliance with the pounds per ton of steel produced emission limitations in Conditions D.29.1(a)(3) through D.29.1(a)(5) respectively, shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration.

(**i**) Any stack which has multiple processes which exhaust to the same stack shall operate all of the processes simultaneously in accordance with 326 IAC 3-6 (Source Sampling Procedures) and 40 CFR 60.275a(b).

(j) These tests shall be performed using methods as approved by the Commissioner.

(k) Testing shall be conducted in accordance with Section C - Performance Testing.

D.29.14 CO, $SO_2$, and $NO_x$ Continuous Emission Rate Monitoring Requirement [326 IAC 2-2] [326 IAC 3-5]

(a) CO, SO2, and NOx CEMS:

(1) Pursuant to the consent decree in United States v. Nucor Corporation, No. 4-00-3945-24 (D.S.C.) and 326 IAC 2-2 (PSD), the Permittee shall install, calibrate, certify, operate, and maintain continuous emissions monitoring systems (CEMS) for measuring CO, SO2, and NOx emissions rates in pounds per hour from the Meltshop EAFs, in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3.

The Permittee shall comply with the PSD BACT CO, SO2, and NOx hourly emission rates by averaging the CEMS readings based on the actual hours of operation in a 24-hour period.

(b) The Permittee shall prepare and submit to IDEM, OAQ a written report of the results of the calibration gas audits and relative accuracy test audits for each calendar quarter within thirty (30) calendar days after the end of each quarter. The report must contain the information required by 326 IAC 3-5-5(e)(2).

(c) The Permittee shall record the output of the systems in pounds per hour and shall perform the required record keeping and reporting, pursuant to 326 IAC 3-5-6 and 326 IAC 3-5-7.

D.29.15 Visible Emissions

(a) To demonstrate compliance with Condition D.29.1(9) and (10), the Permittee shall have a certified visible emissions reader/observer to conduct, perform and record visible observations of the:

(1) Meltshop Baghouse1 roof monitor and Meltshop Baghouse2 stack, and

(2) Meltshop Roof Monitor,

once per day, when either one or both the Meltshop EAFs are operating in the melting and refining period, in accordance with 40 CFR 60, Appendix A, Method 9.

(b) Pursuant to the Approved Alternate Monitoring System requirements for the Meltshop Baghouse 2 stack, the Permittee shall have a certified visible emissions reader/observer to conduct, perform and record visible observations of the stack for at least three (3) six (6)-minute periods during furnace meltdown and refining operations, including periods of simultaneous furnace operation at least, once per day, when either one or both the Meltshop EAFs are operating in the melting and refining period, in accordance with 40 CFR 60, Appendix A, Method 9.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.29.16 Maintenance of CEMS [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the SO2, NOx or CO continuous emission monitoring systems (CEMS) occurs, the Permittee shall maintain records of all CEMS malfunctions, out of control periods, calibration and adjustment activities, and repair or maintenance activities.

(b) The continuous emissions monitoring system (CEMS) shall be operated at all times the emissions unit or process is operating except for reasonable periods of monitor system downtime due to necessary calibration or maintenance activities or malfunctions. Calibration and maintenance activities shall be conducted pursuant to the standard operating procedures under 326 IAC 3-5-4(a).

(c) Except as otherwise provided by a rule or provided specifically in this permit, whenever a continuous emission monitor system (CEMS) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, the Permittee shall perform supplemental monitoring by using calibrated handheld monitors to measure the SO2, NOx and CO emissions on a once per shift basis, unless the CEMS operation is restored prior to the end of the shift.

The handheld monitors shall be approved by the IDEM, OAQ.

(d) The Permittee shall keep records in accordance with 326 IAC 3-5-6(b) that includes the following:

(1) All documentation relating to:

(A) design, installation, and testing of all elements of the monitoring system; and

(B) required corrective action or compliance plan activities.

(2) All maintenance logs, calibration checks, and other required quality assurance activities.

(3) All records of corrective and preventive action.

(4) A log of plant operations, including the following:

(A) Date of facility downtime.

(B) Time of commencement and completion of each downtime.

(C) Reason for each downtime.

(e) The Permittee shall keep records that describe the supplemental monitoring implemented during the downtime to assure compliance with applicable emission limitations.

(f) In accordance with 326 IAC 3-5-7(5), the Permittee shall submit reports of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately.

The reports shall include the following:

(1) Date of downtime.

(2) Time of commencement.

(3) Duration of each downtime.

(4) Reasons for each downtime.

(5) Nature of system repairs and adjustments.

(g) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 3-5, 326 IAC 2-2, and 40 CFR Part 60.

D.29.17 Bag Leak Detection System (BLDS) [326 IAC 2-7-5]

(a) The Permittee shall install and operate a continuous bag leak detection system (BLDS) for each Meltshop Baghouse (1 and 2). The BLDS for Meltshop Baghouse1 (BLDS 1) shall be installed according to the provisions of Condition D.29.17(b) and operated according to the conditions in D.29.17(d). The BLDS for Meltshop Baghouse2 (BLDS 2) shall be installed according to the provisions of Condition D.29.17(c) and operated according to the conditions in D.29.17(d).

(b) The BLDS (BLDS 1) for Meltshop Baghouse1 shall be installed according to the conditions in (i) through (vii) below.

(1) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentration of 0.0018 grains per actual cubic foot or less.

(2) The bag leak detection system sensor must provide output of relative particulate matter loading.

(3) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loading is detected over a preset alarm level.

(4) The bag leak detection system shall be installed in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specification and recommendations for installation, and adjustment of the system.

(5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time.

(6) The bag detector must be installed downstream of the baghouse bags.

(7) The Permittee shall develop and submit to IDEM, OAQ, for approval, a site-specific monitoring plan that addresses the items identified in paragraph (A) through (E) below. For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R98-

015). The Permittee shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following:

(A) Installation of the bag leak detection system;

(B) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;

(C) Operation of the bag leak detection system including quality assurance procedures;

(D) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and

(E) How the bag leak detection system output shall be recorded and stored.

(c) The BLDS (BLDS 2) for Meltshop Baghouse2 shall be installed according to the conditions in (i) through (iv) below.

(1) The bag leak detection system may be of the triboelectric, electrodynamic, light scattering or light transmittance type, and must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 0.0044 grains per actual cubic foot or less.

(2) The bag leak detection system sensor must provide output of relative particulate matter loadings, which shall be continuously recorded.

(3) The bag leak detection system must be equipped with an alarm which shall sound and alert the operator when an increase of particulate loading exceeds a set point established in accordance with the monitoring plan required in Condition D.29.17(d) below.

(4) The Permittee shall develop a monitoring plan for BLDS 2, and shall submit the plan to U.S. EPA Region 5 for review and approval, unless U.S. EPA transfers this responsibility to IDEM, OAQ and written notice of such transfer is provided to Permittee. If BLDS 2 is of the triboelectric type, the plan shall be consistent with the recommendations contained in the U.S. EPA guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015). BLDS 2 shall be operated and maintained in accordance with the plan. The plan, at a minimum, must discuss the following:

(A) Installation details;

(B) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;

(C) Day to day operation including quality assurance operations;

(D) Maintenance procedures, including spare parts inventories.

(d) Each bag leak detection system (BLDS 1 and 2) shall be operated at all times the associated baghouse is operating except for reasonable periods of monitor system downtime due to necessary calibration or maintenance activities or malfunctions. Except as otherwise provided by a rule or provided specifically in this permit, whenever a bag leak detection system (BLDS) is malfunctioning or will be down for calibration, maintenance, or repairs for a period of four (4) hours or more, the Permittee shall perform supplemental monitoring, by conducting visible emission (opacity) readings from the affected baghouse utilizing 40 CFR Part 60, Appendix A, Method 9, or other methods as

approved by the Commissioner, once a shift unless the BLDS operation is restored prior to the end of the shift. The system shall continuously monitor relative particulate matter loadings to detect bag leaks and other conditions that result in increases in particulate loadings. Each BLDS shall meet the following requirements:

(1) Following initial adjustment, the Permittee shall not adjust the averaging period, alarm set point, or alarm delay time without approval from IDEM, OAQ except as provided for in paragraphs (A) and (B) below.

(A) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity.

(B) If opacities greater than zero percent are observed over four consecutive 15-second observations during daily opacity observations and the alarm on the bag leak detection system does not sound, the owner or operator shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.

(2) In the event of a bag leak detection system alarm:

(A) Within one hour of an alarm, the Permittee shall initiate procedures to determine the cause of the alarm.

(B) Except as provided under Condition D.29.17(d)(3) below, the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective actions(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective baghouse compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system;

(vi) Shutting down the process producing the particulate emissions; and

(vii) Determining that the alarm is a result of a malfunction in the BLDS equipment itself, in which case the compartment may be restored to operation and reasonable corrective action steps shall be taken to restore the BLDS to proper operation.

(viii) Determining whether the alarm is a result of inclement weather, in which case the compartment may be restored to operation.

(3) IDEM, OAQ may allow Permittee more than 3 hours to alleviate specific conditions that cause an alarm if Permittee identifies the condition that led to an alarm, adequately explains why it was not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested

additional time will ensure alleviation of the condition as expeditiously as practicable.

D.29.18 Scrubber Parametric Monitoring [326 IAC 2-7-5(3)(A)(iii)] [326 IAC 2-7-5(d)]

The Permittee shall continuously monitor the flow rate of the scrubbing liquid and record the flow rate as a 3-hour average when the EAF dust treatment facility is in operation. For the purposes of this condition, continuously means no less often than once per minute. When for any one reading, the flow rate is below the minimum of 10 gallons per minute, or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instruments used for determining the flow rate shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once annually.

D.29.19 Scrubber Detection [326 IAC 2-7-5] [326 IAC 2-7-6]

In the event that a scrubber malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.29.20 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

Pursuant to 40 CFR Part 64, the Permittee shall comply with the following Compliance Assurance Monitoring requirements for the Meltshop baghouses controlling the EAFs, Argon Oxygen Decarburization vessels, desulfurization station, continuous casters and LMFs:

(a) Monitoring Approach – For EAFs/AODs and LMFs

| EAFs/AODs and LMFs | | | | |
|---|---|---|---|---|
| PARAMETER | INDICATOR NO. 1 | INDICATOR NO. 2 | INDICATOR NO. 3 | INDICATOR NO. 4 |
| I. Indicator Measurement Approach | PM Concentration) | Opacity | Bag Leak Detection System (BLDS) | Bag Condition |
| | U.S. EPA Method 5, for PM or other Methods approved by the Commissioner – Baghouse1 and Baghouse2 | Method 9 visual observations. | Continuous measurement of relative PM loading in the baghouse stack. | Visual inspection. |
| II. Indicator Range | PM emission limit of 0.0018 grain/dscf | An excursion is defined as an opacity measurement exceeding 3% on a 6-minute average. | Predetermined increases in PM loading sets off an alarm, which the operator will respond to. | An excursion is defined as failure to perform the bi-annual inspection. |
| III. Performance Criteria | | | | |
| A. Data Representativeness | U.S. EPA Method 5, for PM or other Methods approved by the Commissioner | Procedures addressed in Method 9 | Monthly operational status inspections of the equipment important to the total capture system. | Baghouse inspected visually for bag leaks. |
| B. Verification of Operational Status | Fans amps and damper position. | NA | NA | NA |
| C. QA/QC Practices and Criteria | U.S. EPA Method 5, for PM or other Methods approved | Use of a certified visible emission | Periodic maintenance of BLDS. | Trained personnel perform inspections and |

| EAFs/AODs and LMFs | | | | |
|---|---|---|---|---|
| PARAMETER | INDICATOR NO. 1 | INDICATOR NO. 2 | INDICATOR NO. 3 | INDICATOR NO. 4 |
| | by the Commissioner | observer. | | maintenance. |
| D. Monitoring Frequency | Once every 2.5 years. | Daily (when the EAF, AODs and LMFs are operating unless inclement weather). | Continuous relative PM loading measurements. | Bi-annual |
| IV. Data Collection Procedures | U.S. EPA Method 5, for PM or other Methods approved by the Commissioner | Daily visual observations of opacity are recorded on V.E. Form. | Record of alarm instances and maintenance activity. | Results of inspections and maintenance activities performed are recorded in baghouse maintenance log. |
| Averaging Period | Average of 3 test runs each four (4) hours long | Six-minute average. | NA | NA |

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.29.21 Record Keeping Requirements

(a) The Permittee shall maintain records required under 326 IAC 3-5-6 at the source in a manner that they may be inspected by the IDEM, OAQ, or the US EPA, if so requested or required.

(b) The Permittee shall maintain records of the amount of steel poured/tapped in each consecutive twelve (12) month period and make available upon request to IDEM, OAQ, and the US EPA.

(c) The Permittee shall maintain records of the readings of the $SO_2$, $NO_x$ and CO CEMS in pounds per hour.

(d) The Permittee shall maintain records of the visible emission readings required by Condition D.29.15(a).

(e) To document compliance with Condition D.29.1, the Permittee shall maintain and make available upon request to IDEM, OAQ, and the US EPA records of the monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches); shop opacity observations conducted at least once per day; and either:

(1) once-per-shift fan motor amperes and damper position,

(2) continuous volumetric flow rate through each separately ducted hood; or

(3) continuous volumetric flow rate at the control device inlet and once-per-shift damper positions.

The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result.

(f) The Permittee shall maintain records of the following for the EAF Dust Treatment scrubber and make available upon request to IDEM, OAQ, and the US EPA:

(1) The continuous flow rate records (on a 3-hour average basis) for the scrubber.

(2) Documentation of all reasonable response steps implemented for every flow rate reading that is outside of the range.

(g) The Permittee shall maintain records of the following for the BLDS and make available upon request to IDEM, OAQ, and the US EPA:

(1) Records of the system output.

(2) Records of system adjustments, including the date and time of each adjustment, and initial and final settings.

(3) Records of the date and time of each system alarm, including, but not limited to, the date and time that procedures to determine the cause of the alarm were initiated, if procedures to determine the cause of the alarm were initiated within one (1) hour, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

(4) Records of the dates and times that the BLDS was not operational, and the reason(s) why it was not operational.

(h) To document compliance with Condition D.29.20 the Permittee shall maintain records of baghouse inspections. These records shall include as a minimum, dates, initials of the person performing the inspections, results, and corrective actions taken in response to excursions as required by the CAM for the EAFs/AOD and LMFs (if any are required).

(i) To document compliance with Condition D.29.3(d), the Permittee shall maintain records of the amount of Fluorspar applied at the EAFs and LMFs.

(j) To document compliance with Condition D.29.8, the Permittee shall maintain records of the actual quantity of propane (LPG) used in the emission units identified as TD #3, MD #1, and MD #2. Records shall be taken monthly and shall be complete and sufficient to establish compliance with the limit established in Condition D.29.8. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(k) Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.

(l) All records shall be maintained in accordance with Section C - General Record Keeping Requirements

D.29.22 Reporting Requirements [326 IAC 2-1.1-11]

(a) The Permittee shall submit a quarterly report of excess emissions, using the Quarterly Deviation and Compliance Monitoring Report or equivalent, of the following:

(1) $SO_2$, $NO_x$ and CO readings from the CEMS,

(2) Opacity readings from the Meltshop Baghouse1 roof monitor, Meltshop Baghouse 2 stack and Meltshop roof monitor; and

This reporting requirement also satisfies the semiannual exceedance reporting required under 40 CFR 60.276a(b) and (g).

(b) These reports shall be submitted no later than thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C - General Reporting Requirements of this permit.

(c) The Permittee shall submit a semi-annual report for each BLDS, the following information:

(1) All visible emission data where six minute averages exceeded 3 percent opacity;

(2) The dates and times when the alarm sounded and procedures to initiate corrective action were not initiated within one (1) hour, and the date and time when corrective actions were initiated;

(3) The dates and times when the alarm sounded and the cause of the alarm was not alleviated within three (3) hours, and the dates and times when the cause of the alarms was alleviated, and;

(4) The dates and times that the BLDS was not operational, and the reason(s) why it was not operational.

(d) The Permittee shall submit quarterly report to document compliance with the propane usage limit required in Condition D.29.8.

## SECTION D.30 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**INSIGNIFICANT ACTIVITIES – MELTSHOP**

(n) Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21):

(1) Ladle tap hole cleaning and repair.

(2) Ladle/tundish refractory application and curing.

(3) Tundish dumping.

(4) Ladle dumping.

(5) Ladle/tundish refractory loading and removal.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.30.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from ladle tap hole cleaning and repair, ladle/tundish refractory application and curing, tundish dumping, and ladle dumping shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

## SECTION D.31 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC2-7-5(15)]

NuPro Steel, LLC Operations:

(a) Slitting operations, 1/4 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 1994; and 1/2 inch slitter line which includes two (2) shears and one (1) edge trimmer, constructed in 2003 both lines re-permitted under Nucor Steel in 2008, each with a maximum design capacity of 300,000 pounds of hot rolled steel coils per hour.

(b) Six (6) natural gas-fired indirect air heaters, with each has a maximum heat input capacity of 0.8 MMBtu/hr, constructed in 1994 and re-permitted under Nucor Steel in 2008.

(c) One (1) cleaner/degreaser, permitted for construction in 2009, with one (1) heated cleaning section, with two (2) 4.8 MMBtu/hr natural gas-fired burners, with burners venting inside the building and one (1) cold cleaning section, consisting of cleaning and rinsing, with a mist eliminator, AC-02 rated at 0.003 grain per dry standard cubic foot (gr/dscf), venting into the atmosphere, and

(d) One (1) leveler/straightener line, permitted for construction in 2009, controlled by one (1) baghouse, AC-01 with maximum design air flow rate of 10,000 actual cubic feet per minute (acfm), exhausting into the atmosphere.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.31.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2, particulate emissions from each of the following operations shall not exceed the pound per hour limit listed in the table below:

| Facility ID | Control ID | Process Weight Rate (ton/hour) | Particulate Emissions Limit (pound/hour) |
|---|---|---|---|
| Leveler/ Straightener | Baghouse- AC-01 | 300 | 63.0 |
| Alkaline Cleaning/degreaser | Mist Eliminator AC-02 | 300 | 63.0 |

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

D.31.2 PM and PM10 Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

The Permittee shall comply with the following particulate emission limits:

| Facility ID | Control ID | PM Emissions Limit (pound/hour) | PM10 Emissions Limit (pound/hour) |
|---|---|---|---|
| Leveler/ Straightener | Baghouse-AC-01 | 1.38 | 0.97 |
| Alkaline Cleaning/degreaser | Mist Eliminator AC-02 | 1.38 | 0.97 |

Compliance with these limits shall render the requirements of 326 IAC 2-2, not applicable with respect to PM and PM10 emissions.

D.31.3 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, the PM emissions from the six (6) indirect air heaters shall each be limited to 0.293 pounds per MMBtu heat input.

This limitation is based on the following equation:

$Pt = 1.09 / Q^{0.26}$ where Pt = Pounds of PM emitted per million Btu (lb/MMBtu) heat input, and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu per hour) heat input.

The Q at the source at the time the 6 indirect heaters were permitted:
(Q = 34 + 9 +15 + 9.98 + 71.04 + 10.9 + 4.8 = 154.72)

D.31.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the cleaner/degreaser and leveler/straightener and their control devices.

**Compliance Determination Requirements**

D.31.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with the limits in Condition D.31.2 for the leveler/straightener, the Permittee shall perform PM and PM10 testing on baghouse AC-01 associated with the Leveler/ Straightener within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008 or within 180 days of achieving maximum production of the leveler/straightener operation, whichever comes later. This testing shall be conducted utilizing methods as approved by the Commissioner.

The PM10 testing shall be repeated once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM.

D.31.6 Particulate Control

The baghouse associated with the leveler/straightener and the mist eliminators associated with the cleaner/degreaser for particulate control shall be in operation at all times the straightener/leveler and cleaner/degreaser are in operation.

D.31.7 Visible Emissions Notations [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

(a) Visible emission notations from the leveler/straightener stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable steps in accordance with Section C-Response to Excursions or Exceedences. Failure to take response steps in accordance with Section C- Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.31.8 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with leveler/straightener at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 11.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once annually.

D.31.9 Broken or Failed Bag Detection

(a) For a single compartment baghouse-controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(c) Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.31.10 Record Keeping Requirements

(a) To document compliance with Condition D.31.7, the Permittee shall maintain records of the once per day visible emission notations from the leveler/straightener stack exhaust and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document compliance with Condition D.31.8, the Permittee shall maintain once per day records of the total pressure drop during normal operation and the reason for the lack of pressure drop notation (e.g. the process did not operate that day).

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.32 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

B-Scrap Beneficiation operations approved in 2011 for construction, performed by Melt Solution, LLC:

(a) Material handling process with one (1) Front End-Loader, identified as BSBP-1, with a maximum throughput rate of 100 tons per hour;

(b) Two (2) conveyor belts with magnetic separator, identified as BSBP-2, with a maximum throughput rate of 100 tons per hour;

(c) One (1) jaw crusher, identified as BSBP-3, with a maximum throughput rate of 100 tons per hour;

(d) One (1) screener, identified as BSBP-4, with a maximum throughput rate of 100 tons per hour;

(e) One (1) 425 brake horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5.

This process involves further processing of the finished product from the existing Slag Processing, EU-10.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.32.1 Prevention of Significant Deterioration (PSD) Minor Limit for PM and PM10 Emissions [326 IAC 2-2]

(a) The PM and PM10 emissions from the following emissions units associated with the B-Scrap Beneficiation process by Melt Solution, LLC shall not exceed the limits listed in the table below:

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| Front End Loader - BSBP-1 | 150,000 | 0.00026 | 0.000129 |
| Conveyor, BSBP-2 ( 4 drop points) | 150,000 (each drop point #1 -#4)[1] | 0.00009 (each drop point #1 -#4)[1] | 0.000033 (each drop point #1 -#4)[1] |
| screener (BSBP-4), | 150,000 | 0.00075 | 0.00026 |
| Crusher, BSBP-3 | 150,000 | 0.00016 | 0.000072 |

[1] Four Drop Points
Drop point #1 front end loader to feed hopper of crusher
Drop point #2 hopper to crusher chamber
Drop point #3 crusher to belt conveyor
Drop point #4 magnetic separator of conveyor to steel and slag piles.

(b) The PM and PM10 emissions from Generator, BSBP-5 shall each not exceed 0.93 pound per hour and its operating hours shall not exceed 1,500 hours per twelve consecutive month period, with compliace at the end of each month.

Compliance with this condition and Condition D.7.3 shall limit the PM and PM10 emissions to less than 25 tons/year for PM and less than 15 tons per year for PM10, which renders the requirements of 326 IAC 2-2 (PSD) not applicable to SSM No. 107-29766-00038.

D.32.2 Prevention of Significant Deterioration (PSD) Minor Limit for Nitrogen Oxides (NOx) Emissions [326 IAC 2-2]

The NOx emissions from the 425 Brake Horsepower (BHP) diesel-fired generator, identified as BSBP-5 shall not exceed 13.17 pounds per hour and it shall not operate at more 1,500 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this condition shall limit the Nitrogen Oxides (NOx) emissions to less than 40 tons per year and render 326 IAC 2-2, PSD requirements not applicable.

D.32.3 Particulate Emissions Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following facilities shall not exceed the pound per hour limits listed in the table below:

| Process/Facility | Process Weight Rate (tons/hour) | Particulate Emissions Limit (pounds/hour) |
|---|---|---|
| Material handling - one (1) Front End-Loader, identified as BSBP-1 | 100 | 51.27 |
| Two (2) conveyor belts, identified as BSBP-2 | 100 | 51.27 |
| One (1) jaw crusher, identified as BSBP-3 | 100 | 51.27 |
| One (1) screener, identified as BSBP-4 | 100 | 51.27 |

The pound per hour limitation in the above table shall be calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.32.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.32.1 the Permittee shall maintain records of the throughput to each of the material handling facilities (front end loader, BSBP-1), conveyor belts (BSBP-2), jaw crusher (BSBP-3), and screener (BSBP-4) each month.

(b) To document the compliance status with Condition D.32.2, the Permittee shall maintain records of the number of hours that the diesel-fired generator (BSBP-5) has operated each month.

(c) Section C - General Record Keeping Requirements.contains the Permittee's obligations with regard to the records required by this condition.

### D.32.5 Reporting Requirements

A quarterly report of the throughput from each of the B-Scrap Beneficiation emission units (BSBP-1, BSBP-2, BSBP-3 and BSBP-4) and hours of operation from generator, BSBP-5 and a quarterly summary of the information to document compliance with Condition D.32.1 and Condition D.32.2 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligations with regard to the records required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION E.1 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

**CASTRIP – LOW NOx BOILER**

(b) One (1) natural gas fueled low-$NO_x$ boiler, identified as Boiler ID No. 501, constructed in 2004, a heat input capacity of 71.04 MMBtu/hour, utilizing low-NOx burners, and exhausting to Stack 501. This boiler provides steam to the vacuum degasser. Propane will be used as back up fuel.

**COLD MILL – NUPRO BOILER**

(z1) One (1) natural gas-fired NuPro boiler with a maximum heat input capacity of 10.9 million British thermal units per hour (MMBtu/hr), constructed in 1994 and re-permitted under Nucor Steel in 2008.

Under 40 CFR Part 60, Subpart Dc, these units are considered steam generating units.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR Part 60, Subpart A]

The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A (Appendix A) – General Provisions, which are incorporated by reference as 326 IAC 12-1-1, for these boilers, in accordance with schedule in 40 CFR Part 60, Subpart A (Appendix A).

E.1.2 Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

Pursuant to 40 CFR Part 60, Subpart Dc, these boilers shall comply with the following provisions:

(1) 40 CFR § 60.40c(a)
(2) 40 CFR § 60.41c
(3) 40 CFR § 60.48c(g)(1)

**SECTION E.2 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**
COLD MILL – PICKLE LINES 1 AND 2

(x) Both Pickle Lines use enhanced HCl pickling solution and rinse water and are equipped with process tanks.

(1) Pickle Line 1, identified as PL1, constructed in 1988, with a maximum capacity of 250 tons/hr, controlled by a counter flow-packed scrubber and mist eliminators, and exhausting to stack S-17. The Pickle Line 1 scrubber has a design flow rate of 12,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 1 is considered an existing continuous pickle line.

(2) Pickle Line 2, consisting of the following units:

(A) One (1) Pickle Line, identified as PL2, constructed in 1997, with a maximum capacity of 250 tons/hr, controlled by a tray scrubber and mist eliminators, and exhausting to stack S-18. The Pickle Line 2 scrubber has a design flow rate of 9,000 acf/min and a loading of 0.01 gr/dscf. Each pickle line has an electric static oiler.

Under 40 CFR Part 63, Subpart CCC, Pickle Line 2 is considered an existing continuous pickle line.

(3) The tank farm treats the rinse water from Pickle Line 1 and Pickle Line 2. These tanks also store spent acid, raw acid, regenerated acid, oily wastewater treated waters for reuse, treatment process wastewater, and other process and treated waters.

COLD MILL – ACID REGENERATION

(ee) Acid Regeneration system, identified as EU-04, constructed in 1989, consisting of two natural gas fueled tangentially fired burners with a maximum rating of 5.6 MMBtu per hour, and an absorber and cyclone with emissions controlled by its own counter flow packed scrubber (identified as AR scrubber) with mist eliminator exhausting to stack S-31. The counter flow-packed scrubber has a design flow rate of 4,269 acf/min and loading of 0.04 gr/dscf. Propane is used as back up fuel.

Under 40 CFR Part 63, Subpart CCC, this unit is considered an existing acid regeneration plant.

WASTEWATER TREATMENT PLANT

(m) Three (3) raw acid/regenerated acid tanks, identified as T-867, T-868 and T-869, constructed in September 2002, with a maximum capacity of 33,000 gallons each, with emissions controlled by the pickle line scrubber, and exhausting to S-17.

(n) Four (4) spent pickle liquor tanks, identified as T-863, T-864, T-865 and T-866, constructed in September 2002, each with a maximum capacity of 33,000 gallons each, with emissions controlled by the pickle line scrubber, and exhausting to S-17.

Under 40 CFR Part 63, Subpart CCC, these units are considered new hydrochloric acid storage vessels.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### E.2.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.1155, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A (Appendix B) – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, for the Pickle Line 1, identified as PL1, Pickle Line 2, identified as PL2, and the tanks in the tank farm that store virgin or regenerated hydrochloric acid for Pickle Line 1 and Pickle Line 2, Acid Regeneration system, identified as EU-04, HCl storage tanks (T-867, T-868 and T-869) and spent pickle liquor tanks (T-863, T-864, T-865 and T-866) in accordance with schedule in 40 CFR Part 63, Subpart CCC.

### E.2.2 National Emissions Standards for Hazardous Air Pollutants for Steel Pickling-HCl Process Facilities and Hydrochloric Acid Regeneration Plants [40 CFR Part 63, Subpart CCC]

Pursuant to 40 CFR Part 63, Subpart CCC, Pickle Line 1, identified as PL1, Pickle Line 2, identified as PL2, and the tanks in the tank farm that store virgin or regenerated hydrochloric acid tank farm for Pickle Line 1 and Pickle Line 2, Acid Regeneration system, identified as EU-04, HCl storage tanks (T-867, T-868 and T-869) and spent pickle liquor tanks (T-863, T-864, T-865 and T-866) shall comply with the following provisions:

(1) 40 CFR § 63.1155(a)(1) through (3), (b), (c)
(2) 40 CFR § 63.1156
(3) 40 CFR § 63.1157(a)(1), (2), (b)(1) & (2)
(4) 40 CFR § 63.1159(a), (b)
(5) 40 CFR § 63.1160(a)(1), (b)(1). (2)(i) through (iii), (iv)(A) through (E), (v) through (vii), (3)(i) through (iii)
(6) 40 CFR § 63.1161 (a)(1) through (3), (b), (c)(1) & (2), (d)(i) through (v), (2)
(7) 40 CFR § 63.1162(a)(1) through (6), (b)(1) through (4), (c)
(8) 40 CFR § 63.1163(a)(2), (5), (d), (e),
(9) 40 CFR § 63.1164(a), (c)(1) through (3).
(10) 40 CFR § 63.1165 (a)(1) through (11), (b)(i) through (iii), (2), (3), (c)
(11) 40 CFR § 63.1166
(12) Table 1 to Subpart CCC of Part 63– Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

**SECTION E.3 FACILITY OPERATION CONDITIONS**

**D.29 – MELTSHOP– ELECTRIC ARC FURNACES, ARGON OXYGEN DECARBURIZATION (AOD) VESSELS, DESULFURIZATION, CONTINUOUS CASTERS, EAF DUST TREATMENT FACILITY**

(nn) Two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, constructed in 1989 and approved for modification in 2007 to replace the furnace bottoms. EAF #1 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #2 consists of three (3) co-jet oxyfuel burner/lance, each has a rated capacity of 6 megawatt constructed in 1996, and approved for modification in 2003 using oxygen, natural gas and propane as backup fuels. EAF #1 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute and EAF #2 consists of three (3) carbon injectors with total maximum rated capacity of 1000 pounds per minute constructed in 1996, and approved for modification in 2003. Together the EAFs and the Argon Oxygen Decarburization (AOD) have a maximum capacity of 502 tons/hour, with emissions controlled by multi compartment reverse air type baghouses (identified as Meltshop Baghouse1 and Meltshop Baghouse2). In addition the EAFs have the following associated equipment:

(1) Seven (7) small charge buckets, five (5) buckets constructed in 1989 and two (2) charge buckets approved for construction in 2007.

(2) Three (3) additional large charge buckets used for single furnace charges on both EAFs, approved for construction in 2007.

(3) Twenty-five (25) EAFs ladles, twenty-one (21) constructed in 1989, four (4) ladles approved for construction in 2007.

(4) EAF charge handling currently utilizing two (2) overhead cranes with magnets and a conveyor to load charge buckets constructed in 1989 and approved for modification in 2007 with the addition of 2 new scrap cranes with magnetics, enhancement of existing cranes and/or magnetics, use of rail and/or truck dump and loader operations and the use of mobile cranes to load charge buckets in the scrap yard.

(5) Flux and alloy material handling system for direct feeding of alloys, lime, carbon, scrap substitutes and other related materials to the EAFs constructed in 1989 and approved for modification in 2007 with the addition of bulk loading of material to the system in a three-sided building.

A continuous emission monitor (CEM) is used to monitor NOx, CO, and $SO_2$ emissions from the EAFs.

Under 40 CFR Part 60, Subpart AAa, these units are considered electric arc furnaces.

(1) The EAFs also utilize the following technologies:

(A) A direct shell evacuation (DSE) control system ("a fourth hole duct"),

(B) An overhead roof exhaust system consisting of canopy hoods,

(C) Oxy fuel burners, and

(2) Each or any combination of the Meltshop EAFs and AOD can independently produce the maximum capacity of 502 tons/hour of steel. Each Meltshop EAF can operate concurrently or independently to achieve this maximum capacity.

(A) The Meltshop Baghouse1 is a multi compartment positive pressure baghouse, has a design air flow rate of 1,527,960 actual cubic foot/min (acf/min) and an

outlet PM loading of 0.0018 grains/dry standard cubic foot (gr/dscf). This Meltshop Baghouse1 exhausts to a roof vent/monitor identified as vent BH1.

(B) The Meltshop Baghouse2 is a multi compartment positive pressure baghouse, has a design flow rate of 915,000 dscf/min and 1,200,000 acf/min and an outlet PM loading of 0.0018 gr/dscf. This Meltshop Baghouse2 exhausts to a stack identified as BH2.

(oo) One (1) Argon oxygen decarburization (AOD) vessel, identified as AOD1, constructed in 1995. One (1) top lance for AOD1 rated at 300,000 cubic feet/hour of oxygen. Together the AOD and the Meltshop EAFs have a total maximum capacity of 502 tons/hour, with emissions controlled by the Meltshop Baghouse1 which exhausts to a roof vent/monitor identified as vent BH1, and Meltshop Baghouse2 which exhausts to stack BH2. One Argon-Oxygen Decarburization Dryout and Preheat Burner, constructed pursuant to CP 107-3599-00038, as revised by A107-4631-00038, September 28, 1995.

Under 40 CFR Part 60, Subpart AAa, AOD1 is considered an argon-oxygen decarburization vessel.

(rr) An EAF dust treatment facility, identified as DTF, constructed in 2004, with a capacity of 100,000 lb/hour, with emission control by bin vents for the silos, scrubber for dust treatment and baghouse for truck loading. Dust transfer will also occur inside the building.

Under 40 CFR Part 60, Subpart AAa, this unit is considered a dust handling system. Options for the dust transfer are:

(1) from silo to truck through a loading spout,

(2) from silo to railcar through a loading spout,

(3) From silo to truck through a loading spout to transfer to the existing Meltshop Baghouses. Unloading from the truck at the existing Meltshop Baghouses also occurs in the building, transferring the dust through augers and a bucket elevator to the existing silo. In this option, the existing EAF dust treatment will have a maximum capacity of 100,000 lb/hr.

(4) Treating dust at the new silo and transferring to a truck. No loading spout is necessary because the material is no longer dusty, as treated.

The EAF dust treatment facility consists of the following:

(A) One (1) lime storage silo, identified as HRE #1, constructed in 1999, with a maximum capacity of 109 tons, emissions controlled by a bin vent filter, and exhausting to stack HR/E-2. Lime is pneumatically loaded to the silo at a maximum transfer rate of 40,000 pounds per hour.

(B) One (1) pugmill, identified as PM, constructed in 1999, with a maximum capacity of 100,000 pounds per hour, emissions controlled by one (1) cyclone in series with one (1) venture scrubber, and exhausting to stack HR/E-1. Lime is transferred to the pugmill via a screw conveyor system at a maximum transfer rate of 5,100 pounds per hour and EAF dust is transferred to the pugmill via gravity through an enclosed cone bottom loading spout at a maximum transfer rate of 100,000 pounds per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### E.3.1 General Provisions Relating to NSPS [326 IAC 12-1-1] [40 CFR Part 60, Subpart A]

The Permittee shall comply with the requirements of 40 CFR 60, Subpart A (Appendix A) – General Provisions, which are incorporated by reference as 326 IAC 12-1-1, for the two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, the Argon oxygen decarburization (AOD) vessels, identified as AODs, and the EAF dust treatment facility, identified as DTF, in accordance with schedule in 40 CFR Part 60, Subpart A (Appendix A).

### E.3.2 New Source Performance Standards for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983 [40 CFR Part 60, Subpart AAa]

Pursuant to 40 CFR Part 60, Subpart AAa, the two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, the Argon oxygen decarburization (AOD) vessels, identified as AODs, and the EAF dust treatment facility, identified as DTF, shall comply with the following provisions:

(1) 40 CFR § 60.270a(a), (b)
(2) 40 CFR § 60.271a
(3) 40 CFR § 60.272a(a)(1) through (3), (b)
(4) 40 CFR § 60.273a(b) through (d), (e)(1) through (3), (4)(i) through (v), (5), (6)(i), (ii), (7), (8), (f)(1) through (6), (g), except as modified by the approved Alternative Monitoring Program for Baghouse2, dated September 4, 2004.
(5) 40 CFR § 60.274a(a)(1), (2), (b) through (e), (h)(1) through (4)
(6) 40 CFR § 60.275a(a), (b)(1), (2), (c), (d), (e)(1) through (4), (f), (g), (h)(1) through (3), (i), (j)
(7) 40 CFR § 60.276a(a) through (e), (f)(1) through (5), (6)(i) through (iv), (7) through (22), (g), (h)(1) through (3)

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY

# PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. |
| Signature: |
| Printed Name: |
| Title/Position: |
| Phone: |
| Date: |

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
## OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

**100 North Senate Avenue**
**MC 61-53 IGCN 1003**
**Indianapolis, Indiana 46204-2251**
**Phone: 317-233-0178**
**Fax: 317-233-6865**

## PART 70 OPERATING PERMIT
## EMERGENCY OCCURRENCE REPORT

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038

**This form consists of 2 pages** **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

X The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and

X The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

| |
|---|
| Facility/Equipment/Operation: |
| Control Equipment: |
| Permit Condition or Operation Limitation in Permit: |
| Description of the Emergency: |
| Describe the cause of the Emergency: |

If any of the following are not applicable, mark N/A **Page 2 of 2**

| |
|---|
| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? Y N |
| Type of Pollutants Emitted: TSP, PM-10, $SO_2$, VOC, $NO_X$, CO, Pb, other: |
| Estimated amount of pollutant(s) emitted during emergency: |
| Describe the steps taken to mitigate the problem: |
| Describe the corrective actions/response steps taken: |
| Describe the measures taken to minimize emissions: |
| If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value: |

Form Completed by:_____

Title / Position: _____

Date: _____

Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

# PART 70 OPERATING PERMIT
# SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

**(Applicable for boilers > or = 10 MMBtu per hour that can burn both natural gas and other fuels. The natural gas fired boiler certification is not required for boilers that can physically only burn natural gas.)**

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038

| |
|---|
| ☐ Natural Gas Only<br>☐ Alternate Fuel burned<br>From:_____ To:_ |

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.<br><br>Signature: |
| Printed Name: |
| Title/Position: |
| Phone: |
| Date: |

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: The steel mill service screen and conveyor system
Parameter: Steel Mill related material throughput
Limit: Less than 1,092,000 tons per 12 consecutive month period.

QUARTER:_____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Meltshop Electric Arc Furnaces
Parameter: Steel Production – tons of steel poured/tapped per twelve (12) consecutive month period
Limit: 4,397,520 tons of steel

QUARTER: _____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Strip Caster Line
Parameter: Steel Throughput/Production Limitation
Limit: 2,365,200 tons steel processing per year, based on a twelve (12) consecutive month period

QUARTER:_____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Cold Reversing Mill 1
Parameter: Mill steel throughput
Limit: 2,190,000 tons per 12 consecutive month period.

QUARTER: _____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH
## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Reversing and Tempering (R/T) Mill (a.k.a Cold Reversing Mill 2)
Parameter: Mill steel throughput
Limit: 2,190,000 tons per twelve (12) consecutive month period.

QUARTER: _____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Two (2) annealing furnaces identified as HM #1 and HM #2
Parameter: Total Natural Gas Equivalent Usage
Limit: 484 million cubic feet of natural gas per twelve (12) consecutive month period.

NG equivalent conversion factor:
1 million cubic feet of natural gas = 5.42 thousand gallons propane

QUARTER:_____YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| **Month 1** | | | |
| Natural Gas Usage | | | |
| Propane Usage | | | |
| Natural Gas Equivalent Usage | | | |
| **Month 2** | | | |
| Natural Gas Usage | | | |
| Propane Usage | | | |
| Natural Gas Equivalent Usage | | | |
| **Month 3** | | | |
| Natural Gas Usage | | | |
| Propane Usage | | | |
| Natural Gas Equivalent Usage | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH
## Part 70 Quarterly Report - KELLY

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: AN-19, TD #3, MD #1, and MD #2
Parameter: Propane combusted
Limit: 1,089 thousand gallons per twelve consecutive month period.

QUARTER : YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: B-Scrap Beneficiation Process by Melt Solution, LLC - Front end loader, (BSBP-1), conveyor belts (BSBP-2), crusher (BSBP-3) and screener (BSBP-4)
Parameter: Throughput
Limit: 150,000 tons per twelve (12) consecutive month period.

QUARTER:_____ YEAR:_____

| **Month** | Column 1 Throughput This Month | | | | Column 2 Throughput 11 Months | | | | Column 1+2 Throughput 12 Month Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 |
| Month 1 | | | | | | | | | | | | |
| Month 2 | | | | | | | | | | | | |
| Month 3 | | | | | | | | | | | | |

[1] Four Drop Points
Drop point #1 front end loader to feed hopper of crusher
Drop point #2 hopper to crusher chamber
Drop point #3 crusher to belt conveyor
Drop point #4 magnetic separator of conveyor to steel and slag piles.

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Replacement Crusher, TSP-6; Conveying Process with 10 drop points[1]
Parameter: Throughput
Limits:

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Replacement Crusher, TSP-6 | 2,671,800 |
| *Conveying Process with 10 drop points[1] | 2,671,800 each drop point<br>2,000,000 drop points #5-#10 |

Note: * Drop points #5 through #10 in Conveying Process with 10 drop points[1] have more stringent throughput limit in EU-10 Slag 25 Drop Points[5]. Therefore, #5 through #10 drop points shall each have a throughput limit of 2,000,000 tons/yr.

QUARTER:_____ YEAR:_____

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Screening Process, TSP-8; EU-10 Slag 25 Drop Points[5]
Parameter: Throughput
Limits:

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Screening Process, TSP-8 | 2,000,000 |
| EU-10 Slag 25 Drop Points[5] | 2,000,000 each drop point |

QUARTER:_____ YEAR:_____

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N #14 Magnetic Separator
#4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Blend Plant - Material handling Front-End Loader, BP-1; Blend Plant Conveying Process (6 Drop Points)[2]
Parameter: Throughput
Limits:

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Blend Plant Material handling Front-End Loader, BP-1 | 1,500,000 |
| Blend Plant Conveying Process (6 Drop Points)[2] | 1,500,000 each drop point |

QUARTER:_____ YEAR:_____

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Months Total | |
|---|---|---|---|---|---|---|
| | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[2] Six Drop Points:

#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 piles

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Temporary Screening Plant, Temporary Screening Conveying Process (6 drop points)[3]
Parameter: Throughput
Limits:

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Temporary Screening Plant | 525,600 |
| Temporary Screening Conveying Process (6 drop points)[3] | 525,600 each drop point |

QUARTER:_____ YEAR:_____

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Months Total | |
|---|---|---|---|---|---|---|
| | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[3] Six Drop Points:

#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: Replacement Screen, TSP-2; Conveying Process (5 drop points)[4]
Parameter: Throughput
Limits:

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Replacement Screen, TSP-2 | 2,000,000 |
| Conveying Process (5 drop points)[4] | 2,671,800 each drop point |

QUARTER: _____ YEAR: _____

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[4] Five drop points:
#1 metal separated by the new magnetic separator into pile #5
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which
will be routed to the 305 tons/hour replacement crusher, TSP-6 and existing magnetic
separator #2 to pile #6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038
Facility: 425 BHP Diesel Generator, BSBP-5 (Melt Solution, LLC)
Parameter: Hours of Operation
Limit: 1,500 operating hours per twelve (12) consecutive month period.

QUARTER:_____ YEAR:_____

| Month | Column 1<br>Hours Operated This Month | Column 2<br>Hours Operated 11 Months | Column 1+2<br>Hours Operated 12 Month Total |
|---|---|---|---|
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
## OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## PART 70 OPERATING PERMIT
### QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-7172-00038

**Months: _____ to _____ Year: _____**



| |
|---|
| This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period". |
| ☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. |
| ☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD |

| | |
|---|---|
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

| | |
|---|---|
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

| | |
|---|---|
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

# Attachment A

## Fugitive Dust Control Plan
## Approved March 28, 1999

**NUCOR Steel**
**4537 South Nucor Road**
**Crawfordsville, Indiana 47842**

### SECTION 1 — INTRODUCTION

The following control plan, when implemented is designed to reduce uncontrolled fugitive dust, based on a PM10 mass emission rate basis. From paved roadways and parking lots by at least 50 percent and down to 16.8 pounds of silt per mile, unpaved roadways and traveled open areas by at least 90 percent instantaneous control, and storage piles and slag processing operations by 97 percent.

The plan shall be implemented on a year-round basis until such time as another plan is approved or ordered by the Indiana Department of Environmental Management (IDEM).

The person on site who is responsible for implementing the plan is:

| | |
|---|---|
| NUCOR Steel | Whitesville Mill Service (Slag Processing) |
| Environmental Manager | Plant Manager |
| 4537 South Nucor Road | 4537 South Nucor Road |
| Crawfordsville, Indiana 47933-9450 | Crawfordsville, Indiana 47933-9450 |
| Telephone: (765) 361-2659 | Telephone: (765) 364-9251 |

### SECTION 2 — PAVED ROADS AND PARKING LOTS

Paved roads and parking lots are indicated on the attached site plan. Dust from these sources shall be controlled by the use of a vehicular sweeper and shall be performed at least once every 14 days to achieve the limit of 16.8 pounds of silt per mile. The average daily traffic on these roads is anticipated up to 350 trucks per day and 400 automobiles per day.

On request of the Assistant Commissioner, NUCOR shall sample and provide to IDEM surface material silt content and surface dust loadings in accordance with field and laboratory procedures given in Reference 1. IDEM will have the right to specify road segments to be sampled. NUCOR shall provide supplemental cleaning of paved road sections found to exceed the controlled silt surface loading of 16.8 pounds of silt per mile.

Exceptions — Cleaning of paved road segments and parking lots may be delayed by one day when:

(a) 0.1 or more inches of rain has accumulated during the 24-hour period prior to the scheduled cleaning.

(b) The road segment is closed or abandoned. Abandoned roads will be barricaded to prevent vehicle access.

(c) It is raining at the time of the scheduled cleaning.

### SECTION 3 — UNPAVED ROADS

Unpaved roads at the slag processing facility shall be treated with an asphaltic emulsion petroleum resin, chemical dust suppressant, or water application. Unpaved roads outside of the slag processing area are maintenance roads that will be tarred-and-chipped, treated with asphaltic emulsion, petroleum resin chemical dust suppressant, or watered as needed for dust control due to moderate or light usage.

**Control Requirements**

1. Slag Processing Facility Unpaved Roads - All roads in the slag processing facility shall be unpaved and treated with an asphaltic emulsion, petroleum resin, chemical dust suppressant, or watered as needed. The program shall be implemented at the following rate:

**Table 3-1**

| Material | Rate | Frequency |
|---|---|---|
| Asphalatic Emulsion | 0.14 gal/yd$^2$ | Once/Month (see below) |
| Petroleum Resin | 0.14 gal/yd$^2$ | Once/Month (see below) |
| Chemical Dust Suppressant | As Specified | Once/Month |
| Water | As Necessary | As Necessary |

As an alternative, NUCOR may pave previously unpaved road sections and apply paved road cleaning measures to these newly paved roads at frequencies similar to existing paved roads in the immediate area.

2. Moderate Use of Roads - Fugitive dust emissions from unpaved roads receiving moderate usage shall be controlled to at least 90 percent instantaneous control, based on a PM10 mass emission basis, by tarring-and-chipping, treatment with an asphaltic emulsion, petroleum resin, chemical dust suppressant, or water application as specified below:

**Table 3-2**

| Material | Rate | Frequency |
|---|---|---|
| Tarring-and-Chipping | As Necessary | Once/Month |
| Asphaltic Emulsion | 0.14 gal/yd$^2$ | Once/Month (see below) |
| Petroleum Resin | 0.14 gal/yd$^2$ initial<br>0.14 gal/yd$^2$ subsequent | Once/Month (see below) |
| Chemical Dust Suppressant | As Specified | Once/Month (see below) |
| Water | As Necessary | As Necessary |

As an alternative, NUCOR may pave previously unpaved road sections and apply paved road cleaning measures to these newly paved roads at frequencies similar to existing paved roads in the immediate area.

3. Light Use Maintenance Roads - Fugitive dust emissions from unpaved roads receiving light usage shall be controlled by an asphaltic emulsion, petroleum resin, chemical dust suppressant, or water as necessary to prevent excessive visible fugitive emissions.

Exceptions - Treating of unpaved road segments may be delayed by one day when:

(a) 0.1 or more inches of rain has accumulated during the 24-hour period prior to the scheduled treatment.

(b) The road segments are saturated with water such that the asphaltic emulsion, petroleum resin, or chemical dust suppressant cannot be accepted by the surface.

(c) The road segments are frozen or covered by ice, snow, or standing water.

(d) The road segment or area is closed or abandoned. Abandoned roads shall be barricaded.

(e) It is raining at the time of the scheduled treatment. Approved Control Methods

**Approved Control Methods**

The asphaltic emulsion, petroleum resin, and chemical dust suppressant products currently approved by IDEM for the use at NUCOR are as follows:

(a) Soil Cement

(b) Calcium Chloride

(c) Road Pro

(d) Petrotac

(e) Coherex

(f) Hydro_Pine

Application rates and frequencies of the approved product, approved equivalent or water shall be sufficient to provide at least 90 percent instantaneous dust control.

2. Tarring-and-Chipping —Tarring-and-chipping shall be applied once to any road segment consistent with good engineering practice and maintained as necessary to ensure fugitive dust control.

3. Asphaltic Emulsion — An asphalt emulsion product shall be applied at the frequency stated in Tables 3-1 or 3-2 from April through October, unless conditions require increase frequency or as required by IDEM or EPA to ensure fugitive dust control. Asphalt emulsion products shall be applied at a rate of 0.14 gallons per square yard per treatment.

4. Petroleum Resin — Petroleum resin products shall be applied at the frequency stated in Tables 3-1 or 3-2 from April through October, unless conditions require increased frequency or as required by IDEM or EPA to ensure fugitive dust control. Petroleum resin products shall be applied at a rate of 0.14 gallons per square yard for the initial treatment and 0.12 gallons per square yard for all subsequent treatments, with the second treatment immediately following the initial treatment.

5. Chemical Dust Suppressant — Commercially produced chemical dust suppressants specifically manufactured for that purpose and approved for use, in writing, by IDEM shall be applied at the rate and frequency specified in the manufacturer's instructions or the IDEM written approval from April through October.

6. Approved Equivalents — No asphaltic emulsion product, petroleum resin product, or chemical dust suppressant shall be used as an equivalent to those listed above without the prior written approval of IDEM.

## SECTION 4 – UNPAVED AREAS

Unpaved areas traveled about stockpiles shall be treated with chemical dust suppressant, asphaltic emulsion, or watered. Fugitive dust emissions shall be reduced by at least 90 percent instantaneous control on a PM10 mass emission basis.

| Material | Rate | Avg. Daily Travel | Frequency |
|---|---|---|---|
| Asphaltic Emulsion | 0.14 gal/yd$^2$ | 25-35 Vehicles | Once/Month (see below) |
| Chemical Dust Suppression | -- | | |
| Water | As Necessary | | As Necessary |

Exceptions — Treatment of unpaved areas may be delayed by one day when:

(a) 0.1 or more inches of rain has accumulated during the 24-hour period prior to the scheduled treatment.

(b) Unpaved areas are saturated with water such that chemical dust suppressant cannot be accepted by the surface.

(c) Unpaved areas are frozen or covered by ice, snow, or standing water.

(d) The area is closed or abandoned.

(e) It is raining at the time of the scheduled treatment.

## SECTION 5 - OPEN AGGREGATE PILES

Open aggregate piles consist of slag in various stages of processing. To maintain product quality and chemical stability, watering the stockpiles shall be the primary means of dust control. Water must be limited so as to keep the moisture content of the product within standards. The total acres of piled material is 10 acres.

| Pile Material | Moisture % | Silt % |
|---|---|---|
| Raw | 2-5 | 1 |
| Plus 4 inches | 1-5 | <1 |
| 5/8” x 2” | 1-5 | <1 |
| 0’ x ½” | 1-5 | <1 |
| Mill Scale | 1-5 | 1-3 |
| Debris | 2-5 | 4-6 |
| AOD Slag | 1-5 | 5-10 |
| Refractory | 0-1 | 1-3 |

Wind Erosion — Visible emissions from the storage piles shall be controlled by the application of water. Water added to the product during processing provides added control. Visible emissions shall be determined in accordance with the procedure specified in Method 9. These limitations may not apply during periods when application of fugitive particulate control measures are either ineffective orunreasonable due to sustained very high wind speeds. During such periods, the Permittee must continue to implement all reasonable fugitive particulate control measures.

## SECTION 6 — SLAG PROCESSING

The following individual operations make up the slag processing operations:

1. Transfer of Cushion Material to Slag Pot — Visible emissions shall be controlled by minimizing the drop height of the bucket and by dumping the bucket slowly.

2. Transfer of Liquid Slag from EAF to Slag Pot — Visible emissions shall be controlled by the EAF shop building. The visible emissions associated with the slag that is dug out of the slag pits located beneath each EAF shall be controlled by minimizing the drop height of the bucket and by dumping the bucket slowly.

3. Transfer of Liquid Slag to Slag Pit — Visible emissions shall be controlled by limiting the rate of pouring and by applying water to the slag pit after the molten slag has been completely dumped from the slag pot to the slag pit.

4. Slag Pit Transfer Activities — Visible emissions shall be controlled by watering of the slag pit.

5. Skull Pit Activities — Application of water to the skull pit activities, including removal of skull and transfer of skull, is prohibitive due to safety reasons because the materials are reused.

6. Screening and Crushing Operation — Visible emissions shall be controlled through the application of water via spray bars.

7. Processed Slag Transfer Activities — Visible emissions shall be controlled by limiting the drop height and rate the material is dumped, and controlling the rate at which the material is picked up.

8. Material Transportation Activities — Visible emissions from the material during inplant transportation shall be controlled by limiting the speed of the hauling equipment, covering the material if necessary, and limiting the bucket height during transport of the material if necessary.

## SECTION 7 — VEHICLE SPEED CONTROL

Speed limits on paved roads shall be posted to be 20 miles per hour. Speed limits on unpaved roads shall be 10 miles per hour.

Compliance with these speed limits shall be monitored by plant guards and safety department. Upon violation, employees shall receive written warning, followed by a one-day suspension if continued violations occur. Visitors to the plant shall be denied access if repeated violations occur.

## SECTION 8 — MATERIAL SPILL CONTROL

Incidents of material spillage on plant property shall be investigated by the person responsible for implementing the plan. That person shall arrange for prompt cleanup and shall contact the party responsible for the spill to insure that corrective action has been taken.

## SECTION 9 - MONITORING AND RECORD KEEPING

Records shall be kept within a journal which will e updated on a regular basis by the environmental engineer of his/her designs. The journals shall include sweeping and spill control activities, and dust suppressant application frequency. Also, the journal shall contain the total amount of water sprayed on the aggregate piles, and the slag processing spray bars. The journals shall be kept in storage for a minimum of three (3) years and shall be available for inspection or copying upon reasonable prior notice.

## SECTION 10 - COMPLIANCE SCHEDULE

This plan shall be fully implemented when construction is completed. Until that time, the plan shall be implemented within portions of the site where construction is considered complete. Where construction is incomplete, appropriate control measures shall be implemented, but cannot be comprehensively addressed. These activities shall be included in the engineering journal.

## SECTION 11 - UNPAVED ROADWAY AND UNPAVED AREA OPACITY LIMITS

Visible emissions from any unpaved road segment or unpaved area shall not exceed 5 percent opacity as averaged over any consecutive 3-minute period. All visible emission observations shall be determined in accordance with 40 CFR 60, Appendix A, Method 9, except as otherwise provided below:

1. In viewing fugitive emissions generated by vehicular traffic, the observer shall be positioned in accordance with the provisions of paragraph 2.1 of Method 9 except that if it is an overcast day the observer need not position himself with his back to the sun.

2. The observer shall begin reading when a vehicle crosses his line of sight which shall be approximately perpendicular to the trajectory of that vehicle. The observer shall continue to observe and record visible emission opacities at 15-second intervals along that same line of sight until no less than twelve consecutive opacity readings have been obtained. If, during the 3-minute evaluation period, another vehicle passes the observers line of sight on the roadway being evaluated, the observer shall terminate the evaluation for that 3-minute period and disregard the incomplete set of readings.

3. If IDEM inspectors note opacity readings greater than 3 percent, NUCOR shall provide supplemental dust suppressant treatment of unpaved roads and parking lots within 24 hours except as provided for in Sections 3 and 4.

## SECTION 12 - REFERENCES

1. C. Cowherd, Jr., et al., Iron and Steel Plant Open Dust Source Fugitive Emission Evaluation, EPA 600/2-79-103, U.S. Environmental Protection Agency Cincinnati. OH, May 1979.

# Indiana Department of Environmental Management
# Office of Air Quality

Addendum to the
Technical Support Document for a Significant Source Modification and a Significant Permit Modification

| | |
|---|---|
| Source Name: | Nucor Steel |
| Source Location: | 4357 South Nucor Road, Crawfordsville, Indiana 47933 |
| County: | Montgomery |
| SIC Code: | 3312 |
| Part 70 Operating Permit No.: | 107-7172-00038 |
| Part 70 Operating Permit Issuance Date: | December 29, 2006 |
| Significant Source Modification No.: | 107-29766-00038 |
| Significant Permit Modification No.: | 107-29903-00038 |
| Permit Reviewer: | Aida DeGuzman |

On February 22, 2011, the Office of Air Quality (OAQ) had a notice published in the Journal Review, Crawfordsville, Indiana stating that Nucor Steel applied for a significant source modification and a significant permit modification to its Part 70 Operating Permit. These permits will allow Nucor Steel Nucor Steel to modify the slag processing and handling operations.

The notice also stated that OAQ proposed to issue permits for this change and provided information on how the public could review the proposed permits and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not these permits should be issued as proposed.

On March 14, 2011, Nucor Steel made the following comments to the draft permits. Additions are **bolded** and deletions are ~~struck-through~~ for emphasis:

**Comment 1:**

Nucor requests that the recordkeeping requirements for the various emission units be reduced to reduce the burden on the source and the number of scales that will be required to demonstrate compliance. Scales are expensive, difficult to maintain and add considerably to operating expense and time. In addition on an annual basis, the slag processing operation cannot produce more tons than were introduced initially at the grizzly. Monitoring the initial introduction of the slag at the grizzly provides a generally accurate approximation for annual production. Additional operation can be determined most easily by monitoring throughput through the crusher TSP-6 and Cone Crusher and the return equipment. Therefore, Nucor proposes to monitor throughput through each operation as follows:

**EU-10 Slag Processing Plant**

| Configuration | Emission Point to Measure | Use for Following Emission Units |
|---|---|---|
| No Cone Crusher | Grizzly | Use for all emission points except recycle loop |
| | Crusher, TSP-6 | Use for recycle loop 1 additional throughput |
| With Cone Crusher | Grizzly | Use for all emission points except recycle loops 1 and 2 |
| | Crusher, TSP-6 | Use for recycle loops 1 |
| | Cone | Use for recycle loops 2 |
| | Crusher, TSP-6 | Use for recycle loop 1 additional throughput |

As seen above, measuring just the three emission points allows the throughput through each transfer point and emission unit, or group of transfer points in the case of the final screen products to be calculated. Therefore, Nucor request that measuring of the throughput be limited to the following emission points: Feed to the Grizzly, before TSP-6 on recycle loop 1 and on Belt Q for the Cone Crusher recycle loop 2.

**IDEM Response 1:**

Since it is not practical to provide scales to all emission points at the slag operation to measure each individual throughput, measuring the slag feed at the requested three emission points (Grizzly, before TSP-6 on recycle loop 1 and on Belt Q for the Cone Crusher recycle loop 2) is reasonable in demonstrating compliance with the throughput limit for each individual emission point.

**Comment 2:**

Nucor notes several corrections to the process description. These are:

- In the description of the five drop points, the magnetic separator drops into pile #5
- Add “and existing magnetic separator #2 to pile #6” after TSP-6 in line 4.

**IDEM Response 2:**

The permit has been corrected as follows:

[4]Five Drop Points:
#1 metal separated by the new magnetic separator into ~~new storage~~ **pile #5**
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which
will be routed to the 305 tons/hour replacement crusher, TSP-6 **and existing magnetic separator #2 to pile #6**
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process,
TSP-8 rated at 447 tons/hr.

**Comment 3:**

Drop points #5 through #10 in Conveying Process 10 drop points[1] are also include in EU-10 Slag 25 drop points[5]. Nucor is concerned that there may be a double counting of emissions calculated for these 5 drop points.

**IDEM Response 3:**

The ten drop points were limited in Nucor's most recently issued permit number 107-29010-00038,. There has been no double counting of their PTEs in this permitting action. If the same drop points were considered or included in the EU-10 25 drop points, it was because they were affected units due to the TSP-8 increase in utilization from 305 tons/yr to 447 tons/year. However, only increases in their emissions were counted (Actual to PTE Test) toward PSD applicability.

Modification has been made to the following Conditions D.7.3 and D.7.5 to clarify the limits for drop points #5 through #10 both included in "Conveying Process 10 drop points[1] and EU-10 Slag 25 drop points[5] " that the more stringent limits should prevail:

D.7.3 Prevention of Significant Deterioration (PSD) Minor Limits for PM and PM10 Emissions [326 IAC 2-2]

(a) The PM and PM10 emissions from the following units shall not exceed the limits listed in the table below:

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| Replacement Crusher, TSP-6 | 2,671,800 | 0.00016 | 0.000072 |
| *Conveying Process with 10 drop points[1] | 2,671,800 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Screening Process, TSP-8 | 2,000,000 | 0.00075 | 0.00026 |
| EU-10 Slag 25 Drop Points[5] | 2,000,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Blend Plant Material handling Front-End Loader, BP-1 | 1,500,000 | 0.00026 | 0.00013 |
| Blend Plant Conveying Process (6 Drop Points)[2] | 1,500,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Temporary Screening Plant | 525,600 | 0.00075 | 0.00026 |
| Temporary Screening Conveying Process (6 Drop Points)[3] | 525,600 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Replacement Screen, TSP-2 | 2,000,000 | 0.00075 | 0.00026 |
| Conveying Process (5 drop points)[4] | 2,671,800 each drop point #1-#5 | 0.00009 each drop point #1-#5 | 0.000033 each drop point #1-#5 |

**Note: * Drop points #5 through #10 in Conveying Process with 10 drop points[1] have more stringent throughput limit in EU-10 Slag 25 Drop Points[5]. Therefore, #5 through #10 drop points shall each have a throughput limit of 2,000,000 tons/yr.**

The emission limits in lb/ton were based upon the uncontrolled EF (1-97%)

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)

#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4] Five drop points:
#1 metal separated by the new magnetic separator into pile #5
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6 and existing magnetic separator #2 to pile #6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
#2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8

#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

(b) The PM and PM10 emissions from the Coil and Slag Cutting operation shall each not exceed 0.46 pound per hour.

(c) The Fugitive Dust Control Plan (included as Attachment A to this permit), shall be implemented to control fugitive particulate emissions from the Blending Plant (vehicular traffic, load-in and load-out of slag to 50 open storage piles and wind erosion from the 50 open storage piles).

Compliance with this condition including Conditions D.7.7 and D.32.1 shall limit the PM and PM10 emissions to less than 25 tons/year for PM and less than 15 tons/year for PM10, which renders the requirements of 326 IAC 2-2 (PSD) not applicable to source modification permitted under SSM No. 107-29766-00038.

D.7.5 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following facilities shall not exceed the pound per hour limit listed in the table below when running at the listed maximum process weight rates:

| Process/Facility | Process Weight Rate (tons/hour) | Particulate Emissions Limit (pounds/hour) |
|---|---|---|
| Existing Slag processing -EU-10 | | |
| Replacement Crusher, TSP-6 | 305 | 63.18 |
| **Conveying Process with 10 drop points[1] | 305 each drop point | 63.18 each drop point |
| Screening Process, TSP-8 | 447 | 67.6 |
| EU-10 Slag 25 Drop Points[5] | 447 each drop point | 67.6 each drop point |
| Grizzly | 305 | 63.18 |
| Blend Plant | | |
| Material handling, Front End-Loader, BP-1 | 305 | 63.18 |
| Blend Plant - 6 Conveying Drop Points[2] | 305 each drop point | 63.18 each drop point |
| Temporary Screening Plant | | |
| Temporary Screening Plant | 60 | 46.3 |
| Temporary Screening Plant - 6 Conveying Drop Points[3] | 60 each drop point | 46.3 each drop point |
| Coil and Scrap Cutting, CC-1 | 70 | 47.8 |
| Replacement Screen, TSP-2 | 341 | 64.5 |
| Conveying Process (5 drop points)[4] | 305 each drop point | 63.18 each drop point |

**Note: **Drop points #5 through #10 in Conveying Process with 10 drop[1] shall use process weight rate of 447 tons/hour that is in EU-10 Slag 25 Drop Points[5].**

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)

#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor, drop point #6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4]Five Drop Points:
#1 metal separated by the new magnetic separator into into pile #5
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6 and existing magnetic separator #2 to pile #6
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher

#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and

P = process weight rate in tons per hour.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

**Comment 4:**

Since the proposed monitoring and recordkeeping requires Nucor to monitor the throughput more exactly, Nucor will need time to obtain, install, and calibrate scales. Nucor understands that Condition C.11 grants Nucor 90 days to install these scales, with up to an additional 90 days if Nucor meets the conditions set forth in Condition C.11. In the interim, Nucor will use throughput through the Grizzly and engineering estimates of the recycled rates, if any, to estimate emissions until such time as the scales are installed. Please let us know if this is not IDEM, OAQ's understanding of Nucor's obligation.

**IDEM Response 4:**

It is reasonable to use the throughput to the Grizzly and engineering estimates of the recycled rates to estimate the throughput to the EU-10 Slag Handling and Processing until Nucor is able to install and calibrate the scales.

**Comment 5:**

Blend Plant - Nucor requests clarification of the monitoring and recordkeeping conditions for the Blend Plant. Unlike EU-10, there are no recycled streams. Thus, input at BP-1 fully addresses all processing through the Blend Plant. Nucor proposes to monitor only throughput through BP-1 and use that to calculate emissions from the balance of the process.

**IDEM Response 5:**

It is reasonable to measure the throughput for the Blend Plant at BP-1, where slag material is initially fed in determining compliance with the throughput limit for each individual emission point at the Blend Plant.

**Comment 6:**

Temporary Screen Plant - Emissions from the temporary screen plant are controlled by the amount of material added at the front as there are no recycled streams. Thus, input at the front fully addresses all processing through the temporary screen plant. Nucor proposes to monitor only throughput through the front and to use that to calculate emissions from the balance of the process.

**IDEM Response 6:**

It is reasonable to just measure the throughput for the Temporary Screen Plant at the screen hopper, where slag material is initially fed in determining compliance with the throughput limit for each individual emission point at the Temporary Screen Plant.

**Comment 7:**

B-Scrap Beneficiation Process by Melt Solutions - Emissions from the temporary B-Scrap Beneficiation Process plant are controlled by the amount of material added at the front as there are no recycled streams. Thus, input at the front (BSBP-1) fully addresses all processing through the temporary screen plant. Nucor proposes to monitor only throughput through the front (BSBP-1) and to use that to calculate emissions from the balance of the process.

**IDEM Response 7:**

It is reasonable to just measure the throughput for the B-Scrap Beneficiation Process at BSBP-1, where slag material is initially fed in determining compliance with the throughput limit for each individual emission point at the B-Scrap Beneficiation Process.

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Significant Source Modification and a Significant Permit Modification to a Part 70 Operating Permit

### Source Description and Location

| | |
|---|---|
| Source Name: | Nucor Steel |
| Source Location: | 4537 South Nucor Road, Crawfordsville, Indiana 47933 |
| County: | Montgomery |
| SIC Code: | 3312 |
| Part 70 Operating Permit No.: | 107-7172-00038 |
| Part 70 Operating Permit Issuance Date: | December 29, 2006 |
| Significant Source Modification No.: | 107-29766-00038 |
| Significant Permit Modification No.: | 107-29903-00038 |
| Permit Reviewer: | Aida DeGuzman |

### Source Definition

This steel mini-mill consists of a source with on-site contractors:

(a) Nucor Steel, the primary operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(b) NuPro Steel, LLC- Plant ID 107-00046, own by Nucor Corporation, is located at 3560 South Nucor Road, Crawfordsville, Indiana 47933;

(c) Whitesville Mill Processing, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(d) Linde Gases, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933;

(e) Heritage Environmental Services, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933; and

(f) Melt Solution, LLC, the supporting operation, is located at 4537 South Nucor Road, Crawfordsville, Indiana, 47933.

### Existing Approvals

The source was issued Part 70 Operating Permit No. T107-7172-00038 on December 29, 2006. The source has since received the following approvals:

(a) First Administrative Amendment No. 107-24009-00038, issued on January 26, 2007;

(b) First Significant Permit Modification No. 107-24022-00038, issued April 20, 2007;

(c) Second Significant Permit Modification No. 107-24284-00038, issued August 8, 2007;

(d) Third Significant Permit Modification No. 107-24699-00038, issued on January 22, 2008;

(e) Second Administrative Amendment No. 107-26116-00038, issued on April 4, 2008;

(f) Third Administrative Amendment No.: 107-26849-00038, issued on October 10, 2008;

(g) Fourth Administrative Amendment No.: 107-26819-00038, issued on October 10, 2008;

(h) Fourth Significant Permit Modification No. 107-27427-00038, issued on May 19, 2009;

(i) Fifth Significant Permit Modification No. 107-26659-00038, issued on February 22, 2010;

(j) Sixth Significant Permit Modification No. 107-29064-00038, issued on July 13, 2010; and

(k) Fifth Administrative Amendment No. 107-29433-00038, issued on September 19, 2010.

**County Attainment Status**

The source is located in Montgomery County.

| Pollutant | Designation |
|---|---|
| $SO_2$ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| $O_3$ | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1] |
| $PM_{10}$ | Unclassifiable effective November 15, 1990. |
| $NO_2$ | Cannot be classified or better than national standards. |
| Pb | Not designated. |
| [1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.<br>Unclassifiable or attainment effective April 5, 2005, for PM2.5. | |

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx are considered when evaluating the rule applicability relating to ozone. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – 326 IAC 2-2 section of this document for more information.

(b) Montgomery County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(c) Montgomery County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

(d) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

## Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| Pollutant | Potential to Emit (tons/year) |
|---|---|
| PM | greater than 100 |
| PM10 | greater than 100 |
| $SO_2$ | greater than 100 |
| VOC | greater than 100 |
| CO | greater than 100 |
| $NO_x$ | greater than 100 |

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is in one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) These emissions are based upon previous approvals issued to this source.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| HAPs | Potential to Emit (tons/year) |
|---|---|
| Single HAP | greater than 10 |
| Total HAPs | greater than 25 |

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

## Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2007 OAQ emissions data.

| Pollutant | Actual Emissions (tons/year) |
|---|---|
| PM | 215 |
| PM10 | 215 |
| PM2.5 | 215 |
| $SO_2$ | 321 |
| VOC | 36 |
| CO | 1,600 |
| $NO_x$ | 367 |
| Pb | 0.05 |

The following table shows the 2008 actual HAPs emissions submitted by the source for permitting information purposes only:

| HAPs | Actual Emissions (tons/year) |
|---|---|
| Chlorine | 0.76 |
| HCl | 3.47 |
| Phosphorus | 0.79 |
| Antimony Compounds | 0.073 |

| HAPs | Actual Emissions (tons/year) |
|---|---|
| Arsenic Compounds | 0.046 |
| Beryllium | 0.0002 |
| Cadmium Compounds | 0.038 |
| Chromium Compounds | 0.224 |
| Cobalt Compounds | 0.016 |
| Lead Compounds | 0.052 |
| Manganese Compounds | 1.85 |
| Mercury Compounds | 0.041 |
| Nickel Compounds | 0.523 |
| Selenium Vompounds | 0.001 |

## Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a Significant Source Modification and Significant Permit applications, submitted by Nucor Steel on October 7, 2010 for the following activities:

(a) Addition of a magnetic separator to a new conveyor belt, exiting the modified 305 tons/hour Grizzly. This change will result in one (1) new drop point for the metal that is separated from the slag by the magnetic separator and goes into a new storage pile (drop point #1). The slag will pass through the magnetic separator and transfer to one of two new conveyors, identified as TSP-1 and TSP-5 (drop point #4), via a diverter box. The slag will then either be routed to the new 341 tons/hr replacement screen identified as TSP-2 via conveyor TSP-1 or be routed to the existing crusher via conveyor TSP-5 (drop point #2). From the crusher, slag is sent back to the replacement screen, TSP-2 (drop point #5). The existing crusher, TSP-6 will increase its rated capacity from 100 tons per hour to 305 tons/hour. Existing screening process, TSP-8, consisting of three (3) screeners with a total rated capacity of 305 tons/hr will be increased to 447 tons/hr. Finally, the screened material will be conveyed into the remaining permitted EU10 operation which will increase utilization due to the increase in capacity of TSP-8.

(b) New Blend Plant, with a maximum rated capacity of 305 tons per hour, which includes front end loaders identified as BP-1 and conveying system identified as BP-2, with fifty (50) slag storage piles. The Blend Plant will further process the various materials streams from the existing Slag Operation EU-10 to produce various blends of slag products. The Blend Plant will process any slag material that is not processed by Melt Solutions, the temporary screening plant or that is processed as slag chips.

(c) Temporary Screening Plant, with maximum rated capacity of 60 tons per hour, powered by a 97 HP diesel generator, TSP-3. This screening plant will further screen the slag product from EU-10 to a smaller size for special applications. When this screen plant is not in operation this material will go to the Blend Plant.

(d) One (1) Coil and Scrap Cutting Operation, identified as CC-1, with particulate emissions controlled by a baghouse, utilizing one (1) 11 million British thermal units per hour (MMBtu/hr) torch unit to cut the coils and scrap.

The following emission units which were permitted (but have not yet been constructed) on June 25, 2010 in SSM No. 107-29010-00038 have been aggregated in this proposed modification SSM No. 107-29766-00038 since these projects are related:

(a) Additional B-Scrap Beneficiation process to be operated by Melt Solution, LLC with the following emission units:

(1) Material handling process with one (1) front end-loader, identified as BSBP-1, with a maximum throughput rate of 100 tons per hour;

(2) Two (2) conveyor belts with magnetic separator, identified as BSBP-2, with a maximum throughput rate of 100 tons per hour;

(3) One (1) jaw crusher, identified as BSBP-3, with a maximum throughput rate of 100 tons per hour;

(4) One (1) screener, identified as BSBP-4, with a maximum throughput rate of 100 tons per hour;

(5) One (1) 425 Brake Horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5.

This process involves further processing of the finished product from the existing Slag Processing, EU-10. However, it will not increase the slag production. No operations at the plant will be affected by the B-Scrap Beneficiation process.

## Enforcement Issues

There are no pending enforcement actions related to this modification.

## Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

| UNCONTROLLED PTE FROM NEW EMISSION UNITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Process/Facility** | **PM** | **PM10** | **CO** | **SO2** | **VOC** | **NOx** | **HAPs** |
| **B-Scrap Beneficiation Process (Melt Solution, LLC)** | | | | | | | |
| Material Handling (Front End Loader - BSBP-1) | 3.85 | 1.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Conveyor, BSBP-2 ( 4 drop points) | 5.26 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Screen, BSBP-4 | 10.95 | 3.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crusher, BSBP-3 | 1.62 | 0.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, BSBP-5 | 4.10 | 4.10 | 12.43 | 3.82 | 4.68 | 57.71 | 0.015 Formalde-hyde 0.05 Total |
| | | | | | | | |
| **Blending Plant** | | | | | | | |
| Front Loader, BP-1 | 11.76 | 5.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Blending Plant - 6 Conveyor Drop Points* | 24.05 | 8.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Load-In and Load-Out Slag to 50 Slag Storage Open Piles (Blend Plant) | 0.89 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Wind Erosion from 50 Slag Storage Open Piles (Blend Plant) | 71.50 | 35.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions - New Blend Plant Vehicular Traffic | 80.00 | 22.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| UNCONTROLLED PTE FROM NEW EMISSION UNITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Process/Facility** | **PM** | **PM10** | **CO** | **SO2** | **VOC** | **NOx** | **HAPs** |
| **Temporary Screening Plant** | | | | | | | |
| Temporary Screening Plant | 6.57 | 2.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporary Screening Process – 6 Conveyor Drop Points** | 4.73 | 1.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, TSP-3 | 0.93 | 0.93 | 2.84 | 0.87 | 1.07 | 13.17 | 0.0035 Formalde-hyde 0.012 Total |
| Coil Cutter | 20.30 | 20.30 | 4.00 | 0.00 | 0.30 | 4.80 | 0.087 Hexane 0.091 Total |
| New Replacement Screen, TSP-2 | 37.34 | 12.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| #1-#5 (5) Conveyor Drop Points (#5 Drop Point (Crusher back to Screen, TSP-2)*** | 20.04 | 7.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Replacement Crusher, TSP-6 | 7.21 | 3.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL PTE OF NEW EMISSION UNITS** | **318.94** | **136.20** | **19.27** | **4.69** | **6.05** | **75.68** | **0.0185 Formalde-hyde 0.153 Total** |
| | | | | | | | |
| **PTE INCREASE DUE TO MODIFICATION** | | | | | | | |
| **Existing Modified Slag Operation, EU-10** | | | | | | | |
| PTE Before Modification from TSP-8 and EU10 Slag 25 drop points**** | 136.79 | 50.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PTE After Modification from TSP-8 and EU10 Slag 25 drop points**** | 199.70 | 73.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **PTE Net Increase from TSP-8 and EU10 Slag 25 drop points** | **62.91** | **23.32** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **TOTAL UNCONTROLLED PTE FROM THE NEW AND MODIFIED UNITS** | **381.85** | **159.50** | **19.27** | **4.69** | **6.05** | **75.68** | **0.0185 Formalde-hyde 0.153 Total** |

(a) This modification is subject to 326 IAC 2-7-10.5(f), Significant Source Modification because it has the potential to emit Particulate Matter (PM) and PM10 greater than or equal to twenty-five (25) tons per year.

(b) This modification is subject to 326 IAC 2-7-12(d), Significant Permit Modification, since it involves incorporating applicable requirements that do not qualify as minor permit modification or as an administrative amendment.

## Permit Level Determination – PSD

Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| | CONTROLLED/LIMITED PTE (TONS/YEAR) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | **PM** | **PM Limits)** | **PM10** | **PM10 Limits** | **CO** | **SO2** | **VOC** | **NOx** |
| **B-Scrap Beneficiation Process (Melt Solution, LLC)** | | | | | | | | |
| Material Handling (Front End Loader - BSBP-1) | 0.66 | | 0.32 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Conveyor, BSBP-2 ( 4 drop points) | 0.9 | | 0.33 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Screen, BSBP-4 | 1.88 | | 0.65 | **Limits in Throughput or hours of operation** | 0.00 | 0.00 | 0.00 | 0.00 |
| Crusher, BSBP-3 | 1.62 | | 0.72 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, BSBP-5 | 0.70 | | 0.70 | | 2.12 | 0.65 | 0.80 | 9.88 |
| **Blending Plant** | | | | | | | | |
| Front Loader, BP-1 | 0.20 | | 0.10 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Blending Plant - 6 Conveyor Drop Points* | 0.41 | | 0.15 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Load-In and Load-Out Slag to 50 Slag Storage Open Piles (Blend Plant) | 0.03 | **Limits in Throughput or hours of operation** | 0.01 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Wind Erosion from 50 Slag Storage Open Piles (Blend Plant) | 2.15 | | 1.08 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions - New Blend Plant Vehicular Traffic | 8.00 | | 2.21 | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Temporary Screening Plant** | | | | | | | | |
| Temporary Screening Plant | 0.20 | | 0.07 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporary Screening Process – 6 Conveyor Drop Points ** | 0.14 | | 0.05 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, TSP-3 | 0.93 | | 0.93 | | 2.84 | 0.87 | 1.07 | 13.17 |
| Coil Cutter | 2.03 | **0.46 lb/hr** | 2.03 | **0.46 lb/hr** | 4.00 | 0.00 | 0.30 | 4.80 |
| New Replacement Screen, TSP-2 | 0.75 | | 0.26 | | 0.00 | 0.00 | 0.00 | 0.00 |
| #1-#5 (5) Conveyor Drop Points (#5 Drop Point Crusher back to Screen, TSP-2)*** | 0.60 | | 0.22 | | 0.00 | 0.00 | 0.00 | 0.00 |
| Replacement Crusher, TSP-6 | 0.22 | | 0.10 | | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL Controlled PTE from New Emission Units** | **21.41** | | **9.93** | | **8.96** | **1.52** | **2.17** | **27.85** |
| | | | | | | | | |
| | **ACTUAL TO POTENTIAL (ATP) TEST** | | | | | | | |
| PTE Net Increase from TSP-8 and EU10 Slag 25 drop points**** | 2.64 | - | 0.97 | | | | | |
| **TOTAL PROJECT EMISSIONS CHANGE** | **24.05** | **-** | **10.90** | **-** | **9.06** | **1.52** | **2.17** | **27.85** |
| PSD SIGNIFICANT LEVELS | 25 | | 15 | | 100 | 40 | 40 | 40 |

* Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 storage piles

**Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

***Five drop points:
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 and TSP-5 or routed to replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
#2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 ton/hr

****Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

(a) The modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. However, as shown in the uncontrolled PTE table above, the uncontrolled emissions from the proposed new emission units are greater than the PSD significant levels and thus require a minor limit to be considered a minor project. Please see emission limitations in State Rule Applicability Determination Section under 326 IAC 2-2 as well the preceding tables.

(b) The source has elected to conduct an actual to PTE (ATP) test to the existing TSP-8 and EU-10 Slag 25 drop points to avoid limiting these ATP units and the need to tracking and reporting their post change PTE. However, limiting the non ATP units is not enough to keep the project minor for PSD. Therefore, the ATP units have been limited as well to keep the project minor for PSD review.

In addition, the source will continue to utilize the application of water or water sprays to control particulate emissions from the existing slag processing, EU-10, new Blend Plant and new Temporary Screening Plant. Likewise, the baghouse for the proposed new Coil Cutting operation be in operation whenever Coil Cutting is performed. The Melt Solution throughput to each emission unit will be limited through a hours of operation per year restriction for generator, BSBP-5.

## Federal Rule Applicability Determination

The following federal rules are applicable to the source:

**NSPS**

(a) 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines - This rule applies to manufacturers, owners and operators of stationary CI ICE that commence construction (date the engine was ordered) as specified below:

(1) Manufacturers of stationary CI ICE with displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later for engines that are not fire pump engines
(ii) The model year listed in Table 3 for fire pump engines

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or
(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006

(3) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

(4) Provisions not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

The diesel fired generator, TSP-3 with power rating of 97 Brake Horsepower (BHP) and generator BSBP-5 with power rating of 425 Brake Horsepower (BHP) are not subject to 40 CFR Part 60, Subpart IIII, because they are not a stationary internal combustion engines, since each engine is in a piece of equipment or by itself is portable or transportable (designed to be and capable of being carried or moved from one location to another). Note: The generator, TSP-3 which powers the temporary screen operation, and generator BSBP-5 which powers the jaw crusher, BSBP-3 are mounted on a skid that is loaded on and off a trailer.

(b) 40 CFR Part 60, Subpart JJJJ - Standard of Performance for Stationary Spark Ignition Internal Combustion Engine - This rule applies to manufacturers, owners and operators of stationary CI ICE that commence construction (date the engine was ordered) as specified below:

(1) Manufacturers of stationary SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power of equal to or more than 500 HP (except lean burn engines with a maximum engine power equal to or more than 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power equal to or more than 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that commence modification or reconstruction after June 12, 2006.

(6) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine test cell/stand.

The diesel fired generator, TSP-3 with power rating of 97 Brake Horsepower (BHP) and generator BSBP-5 with power rating of 425 Brake Horsepower (BHP) are not subject to 40 CFR Part 60, Subpart JJJJ, because they are not stationary spark ignition internal combustion engines. These generators are compression ignition (CI) engines.

**NESHAP**

(a) 326 IAC 20-82 and 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). This rule applies to owners and operators of existing, new, or reconstructed stationary RICE at a major or area source of HAPs, excluding stationary RICE being tested at a stationary RICE test cell/stand:

(1) Existing stationary RICE:

(i) For stationary RICE with site rating of more than 500 HP, located at a major source of HAPs, commencing construction or reconstruction before December 19, 2002.

(ii) For stationary RICE with site rating with site rating of less than or equal to 500 HP, located at a major source of HAPs, commencing construction or reconstruction before June 12, 2006.

(iii) For stationary RICE located at an area source of HAPs, commencing construction or reconstruction before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make it new or reconstructed stationary RICE.

(2) New stationary RICE:

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) Reconstructed stationary RICE:

(i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

Stationary RICE subject to limited requirements:

(1) An affected source which meets either of the following criteria does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; or

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(h) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

Stationary RICE not subject to the standards of Subpart ZZZZ, and no initial notification required:

(1) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(2) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(3) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(4) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(5) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(7) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(8) Existing institutional emergency stationary RICE located at an area source of HAP emissions

The diesel fired generator, TSP-3 with power rating of 97 Brake Horsepower (BHP) and generator BSBP-5 with power rating of 425 Brake Horsepower (BHP) are not subject to 40 CFR Part 63, Subpart ZZZZ, because they are not stationary internal combustion engines, since each engine is in a piece of equipment or by itself is portable or transportable (designed to be and capable of being carried or moved from one location to another). Note: The generator, TSP-3 which powers the temporary screen operation, and generator BSBP-5 which powers the jaw crusher, BSBP-3 are mounted on a skid that is loaded on and off a trailer.

**Compliance Assurance Monitoring**

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each new or modified pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

CAM is not applicable to any of the emission units from the proposed new Blend Plant, Temporary Screening operation, Coil and Scrap Cutting, and affected existing slag operation, EU-10 because no emission unit has the potential to emit before controls for PM and PM10 equal to or greater than the Part 70 major source threshold level of 100 tons per year. (See Page 6 of this TSD for Uncontrolled PTE Table).

**State Rule Applicability Determination**

(a) 326 IAC 2-2 (Prevention of Significant Deterioration)

Nucor Steel began operation in 1989. Nucor Steel belongs to one of the twenty-eight (28) listed source categories with a PSD major source threshold of 100 tons per year. Nucor Steel is an existing major PSD source. The proposed modification will be limited to less than 25 tons/year PM and less than 15 tons/year PM10 to avoid the applicability of 326 IAC 2-2, PSD:

(1) The PM and PM10 emissions from the following emissions units associated with the B-Scrap Beneficiation process by Melt Solution, LLC shall not exceed the limits listed in the table below:

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| Front End Loader - BSBP-1 | 150,000 | 0.00026 | 0.000129 |
| Conveyor, BSBP-2 (4 drop points)[1] | 150,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Screener (BSBP-4) | 150,000 | 0.00075 | 0.00026 |
| Crusher, BSBP-3 | 150,000 | 0.00016 | 0.000072 |

[1] Four Drop Points:
#1 front end loader to feed hopper of crusher
#2 hopper to crushing chamber
#3 crusher to belt conveyor
#4 magnetic separation conveyor to steel pile and slag pile.

(2) The PM and PM10 emissions from Generator, BSBP-5 shall each not exceed 0.93 pound per hour and its operating hours shall not exceed 1,500 hours per twelve consecutive month period, with compliace at the end of each month.

(3) The PM and PM10 emissions from the following units shall not exceed the limits listed in the table below:

Note: Currently Replacement Crusher, TSP-6, Conveying Process with 10 drop points[1] and Screening Process, TSP-8 are limited in pound/hour of emissions to

avoid PSD. These current limits are much higher than the new limits set in this permitting action. The new limits will be based upon the corresponding throughput and pound/ton emissions limits. Therefore, changing their pound/hour emissions limits into throughput and pound/ton limits would not constitute a relaxation of PSD limits under 326 IAC 2-2-8(a)(3). Please see Table 1 and emission calculations below for comparison, while Table 2 shows the new limits:

| Table 1 | | | | |
|---|---|---|---|---|
| | **Current Limits** | | **New Limits** | |
| **Unit Description** | **PM Emissions Limit (lb/hr)** | **PM10 Emissions Limit (lb/hr)** | **PM Emissions Limit (lb/hr)** | **PM10 Emissions Limit (lb/hr)** |
| Replacement Crusher, TSP-6 | 0.42 | 0.31 | 0.05 | 0.02 |
| Conveying Process with 10 drop points[1] | 2.2 total | 1.35 total | 0.30 total | 0.10 total |
| Screening Process, TSP-8 | 1.84 | 1.04 | 0.17 | 0.06 |

New Limits

TSP-6 = 305 tons/hr * 0.0054 lb/ton = 0.22 lb/hr * (1-0.97) = **0.05 lb/hr of PM (controlled) < 0.42 lb/hr**
= 305 tons/hr * 0.0024 lb/ton = 0.73 lb/hr * (1-0.97) = **0.02 lb/hr PM10 (controlled) < 0.31 lb/hr**

Conveying Process with 10 drop points[1] = 305 tons/hr * 0.003 lb/ton = 0.92 lb/hr * (1-0.97) = 0.03 lb/hr PM each * 10 = **0.30 lb/hr PM total (controlled) < 2.2 lb/hr total**
= 305 tons/hr * 0.0011 lb/ton = 0.34 lb/hr * (1-0.97) = 0.01 lb/hr PM each * 10 = **0.10 lb/hr PM10 total (controlled) < 1.35 lb/hr total**

TSP-8 = 2 Million tons/yr * 0.025 lb/ton /8760 = 5.7 lb/hr * (1-0.97) = **0.17 lb/hr PM (controlled) < 1.84 lb/hr**
= 2 Million tons/yr * 0.0087 lb/ton /8760 = 1.9 lb/hr * (1-0.97) = **0.06 lb/hr PM10 (controlled) < 1.04 lb/hr**

Table 2

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| Replacement Crusher, TSP-6 | 2,671,800 | 0.00016 | 0.000072 |
| Conveying Process with 10 drop points[1] | 2,671,800 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Screening Process, TSP-8 | 2,000,000 | 0.00075 | 0.00026 |
| EU-10 Slag 25 Drop Points[5] | 2,000,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Blend Plant Material handling Front-End Loader, BP-1 | 1,500,000 | 0.00026 | 0.00013 |
| Blend Plant Conveying Process (6 Drop Points)[2] | 1,500,000 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Temporary Screening Plant | 525,600 | 0.00075 | 0.00026 |
| Temporary Screening Conveying Process (6 Drop Points)[3] | 525,600 each drop point | 0.00009 each drop point | 0.000033 each drop point |
| Replacement Screen, TSP-2 | 2,000,000 | 0.00075 | 0.00026 |
| Conveying Process (5 drop points)[4] | 2,671,800 each drop point #1-#5 | 0.00009 each drop point #1-#5 | 0.000033 each drop point #1-#5 |

The emission limits in lb/ton were based upon the uncontrolled EF (1-97%)

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)

#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4] Five Drop Points:
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
#2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table**
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R

#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

(4) The PM and PM10 emissions from the Coil and Slag Cutting operation shall each not exceed 0.46 pound per hour.

(5) The Permittee shall apply an initial application of water or a mixture of water and wetting agent weather permitting to control the PM and $PM_{10}$ emissions from the crushers, screens, and conveyors, such that the opacity limitations in Condition D.7.1 are not exceeded at each emission point where slag handling and processing operations occur.

Compliance with these limits and the use of water sprays or wet suppression system shall render 326 IAC 2-2, PSD not applicable to the Significant Source Modification 107-29766-00038.

(b) IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(1) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following facilities shall not exceed the pound per hour limit listed in the table below:

| Process/Facility | Process Weight Rate (tons/hour) | Particulate Emissions Limit (pounds/hour) |
|---|---|---|
| **B-Scrap Beneficiation - Melt Solution, LLC** | | |
| Material handling - one (1) Front End-Loader, identified as BSBP-1 | 100 | 51.27 |
| Two (2) conveyor belts, identified as BSBP-2 | 100 | 51.27 |
| Crusher, BSBP-3 | 100 | 51.27 |
| One (1) screener, identified as BSBP-4 | 100 | 51.27 |
| **Existing Slag processing -EU-10** | | |
| Replacement Crusher, TSP-6 | 305 | 63.18 |
| Conveying Process with 10 drop points[1] | 305 each drop point | 63.18 each drop point |
| Screening Process, TSP-8 | 447 | 67.6 |
| EU-10 Slag 25 Drop Points[5] | 447 each drop point | 67.6 each drop point |
| Grizzly | 305 | 63.18 |
| **Blend Plant** | | |
| Material handling, Front End-Loader, BP-1 | 305 | 63.18 |
| Blend Plant - 6 Conveying Drop Points[2] | 305 each drop point | 63.18 drop point |
| **Temporary Screening Plant** | | |
| Temporary Screening Plant | 60 | 46.3 |
| Temporary Screening Plant - 6 Conveying Drop Points[3] | 60 each drop point | 46.3 each drop point |
| Coil and Scrap Cutting, CC-1 | 70 | 47.8 |
| Replacement Screen, TSP-2 | 341 | 64.5 |
| Conveying Process (5 drop points)[4] | 305 each drop point | 63.18 each drop point |

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

[2] Six Drop Points:
#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor, drop point #6 stacker conveyor to 3 storage piles

[3] Six Drop Points:
#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

[4] Five Drop Points:
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP- or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

[5] Twenty-Five EU-10 Slag Drop Points
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile 7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8

#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

(2) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

(c) 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)
This rule applies to combustion emission units with a potential to emit of 25 tons per year or 10 pounds per hour.

(1) The one (1) 425 BHP diesel generator, BSBP-5 has a total potential to emit of 3.8 tons/year of $SO_2$ and the one (1) 97 BHP diesel generator, TSP-3 has a total PTE of 0.87 ton /year of $SO_2$. Therefore, they are not subject to 326 IAC 7-1.1-2.

(d) 326 IAC 9 (Carbon Monoxide Emission Rules)
This rule applies to all stationary sources of carbon monoxide (CO) emissions commencing operation after March 12, 1972, and for which an emission limit has been established in Section 2 of this rule (326 IAC 9).

The one (1) 425 BHP diesel generator is not subject to 326 IAC 9 because it is not one of the listed emission units limited in Section 2 of 326 IAC 9.

(e) 326 IAC 8-1-6 (New Facilities: General Reduction Requirements)
This rule applies to a new facility with VOC potential emissions of 25 tons per year that are not otherwise regulated by any provisions in article 326 IAC 8, that are located anywhere in the states.

The proposed 425 BHP diesel generator, BSBP-5 and the 97 BHP diesel fired generator, TSP-3 are not subject to 326 IAC 8-1-6, because each VOC emissions are less than 25 tons per year.

## Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance

Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination and monitoring requirements applicable to this modification are as follows:

(a) The Permittee shall apply an initial application of water or a mixture of water and wetting agent weather permitting to control the PM and $PM_{10}$ emissions from the crushers, screens, and conveyors, such that the opacity limitations in Condition D.7.1 are not exceeded at each emission point where slag handling and processing operations occur.

(b) The pressure drop across the baghouse used in conjunction with the Coil and Scrap Cutting, CC-1 shall be maintained at 1.0 and 11.0 inches of water or a range established during the latest stack test and must be recorded at least once per day when the process is in operation.

(c) Not later than 60 days after achieving maximum production capacity, but no later than 180 days after initial startup of the Coil and Scrap Cutting operation (CC-1), the Permittee shall perform PM and PM10 testing on its baghouse.

(d) Visible emission notations of the exhaust from CC-1 shall be performed once per day during normal daylight operations.

The above requirement is needed to avoid the requirements of 326 IAC 2-2, PSD rules for this Source Modification 107-29766-00038.

## PROPOSED CHANGES TO THE PART 70 PERMIT

The changes listed below have been made to Part 70 Operating Permit No. 107-7172-00038. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**.

*Indiana is still operating under the EPA surrogate policy that allows PM2.5 to be set as equal to PM10. PM10 is an adequate surrogate for PM2.5 since utilizing PM10 emission factors for PM2.5 overestimates PM2.5 emissions. Therefore, conditions or requirements for PM2.5 have been deleted throughout the permit.*

D.31.2 PM and PM10~~/PM2.5~~ Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

The Permittee shall comply with the following particulate emission limits:

| Facility ID | Control ID | PM Emissions Limit (pound/hour) | PM10~~/M2.5~~ Emissions Limit (pound/hour) |
|---|---|---|---|
| Leveler/ Straightener | Baghouse-AC-01 | 1.38 | 0.97 |

| | | | |
|---|---|---|---|
| Alkaline Cleaning/degreaser | Mist Eliminator AC-02 | 1.38 | 0.97 |

Compliance with these limits shall render the requirements of 326 IAC 2-2, not applicable with respect to PM and PM10~~/PM2.5~~ emissions.

D.31.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with the limits in Condition D.31.2 for the leveler/straightener, the Permittee shall perform PM~~,~~ **and** PM10 ~~PM 2.5~~ testing on baghouse AC-01 associated with the Leveler/ Straightener within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008 or within 180 days of achieving maximum production of the leveler/straightener operation, whichever comes later. This testing shall be conducted utilizing methods as approved by the Commissioner.

The PM10 ~~and PM2.5~~ testing shall be repeated once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 ~~and PM2.5~~ includes filterable and condensable PM.

*The modification permitted in SSM No. 107-29010-00038, issued on June 25, 2010 has been aggregated in this permitting action. Therefore SECTION D.7 has been modified as follows:*

**SECTION D.7 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

SLAG PROCESSING

(p) Slag processing, identified as EU-10, constructed in 1989, is performed by Whitesville Mill Service Company, an on-site contractor. Slag and other steel mill related materials are transported by slag pots or other mobile equipment, processed, and stockpiled with a maximum throughput of 305 tons/hr. This emission unit consists of storage piles (unprocessed and processed materials), grizzly feeding, slag processing (screening, conveying, and crushing), slag pot dumping, product loading for transport, and unpaved roads. The fugitive emissions from slag processing are controlled by water sprays and exhaust to the atmosphere.

**Approved in 2011 for modification to add two (2) conveyors, identified as TSP-1 and TSP-5, replacement Screen identified as TSP-2 rated at 341 tons/hour, addition of a magnetic separator to a new conveyor belt exiting the Grizzly. Increase the capacity of screening process, TSP-8, consisting of three (3) screeners from a total of 305 tons/hr to a total of 447 tons/hr. Finally, the screened material will be conveyed into the remaining permitted EU10 operation which will increase utilization due to the increase in capacity of TSP-8.**

One (1) crusher, TSP-6 with a maximum throughput rate of 100 tons per hour, **approved in 2010 for construction and approved in 2011 to increase its capacity to 305 tons per hour.**

(q) One (1) mill scale screen and conveyor system, identified as MSS-1, constructed in 2001, with a maximum throughput rate of 350 tons of mill scale per hour, with emissions uncontrolled, and exhausting to the atmosphere.

(**r**) **Blend Plant, approved in 2011 for construction, with a maximum rated capacity of 305 tons per hour, which includes front end loaders identified as BP-1 and conveying system identified as BP-2, with fifty (50) slag storage piles. The Blend Plant will further process the various materials streams from the existing Slag Operation EU-10 to**

**produce various blends of slag products. The Blend Plant will process any slag material that is not processed by Melt Solutions, the temporary screening plant or that is processed as slag chips.**

**(s) Temporary Screening Plant, approved in 2011 for construction, with maximum rated capacity of 60 tons per hour, powered by a 97 HP diesel generator, TSP-3. This screening plant will further screen the slag product from EU-10 to a smaller size for special applications. When this screen plant is not in operation this material will go to the Blend Plant.**

**(t) One (1) Coil and Scrap Cutting Operation, identified as CC-1, with particulate emissions controlled by a baghouse, utilizing one (1) 11 million British thermal units per hour (MMBtu/hr) torch unit to cut the coils and scrap, approved in 2011 for construction.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

***

D.7.3 Prevention of Significant Deterioration (PSD) Minor Limits for PM~~,~~ **and** PM10 ~~and PM2.5~~ Emissions [326 IAC 2-2]

(a) The PM, **and** PM10 ~~and PM2.5~~ emissions from the following units shall not exceed the ~~emission~~ limits listed in the table below:

*Note: The source has elected to conduct an actual to PTE (ATP) test for the existing Grizzly to avoid limiting it and the need to tracking and reporting its post change PTE.*

*Currently Replacement Crusher, TSP-6, Conveying Process with 10 drop points[1] and Screening Process, TSP-8 are limited in pound/hour of emissions to avoid PSD. These current limits are much higher than the new limits set in this permitting action. The new limits will be based upon the corresponding throughput and pound/ton emission limits. Therefore, changing their pound/hour emission limits into throughput and pound/ton limits would not constitute a relaxation of PSD limits under 326 IAC 2-2-8(a)(3).*

| ~~Unit Description~~ | ~~PM Emissions Limit (lbs/hr)~~ | ~~PM10 Emissions Limit (lbs/hr)~~ | ~~PM2.5 Emissions Limit (lbs/hr)~~ |
|---|---|---|---|
| ~~Replacement Crusher, TSP-6~~ | ~~0.42~~ | ~~0.31~~ | ~~0.32~~ |
| ~~Conveying Process with 10 drop points[1]~~ | ~~2. 2 total~~ | ~~1.35 total~~ | ~~1.37~~ |
| ~~Screening Process~~ | ~~1.84~~ | ~~1.04~~ | ~~1.05~~ |

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| **Replacement Crusher, TSP-6** | **2,671,800** | **0.00016** | **0.000072** |
| **Conveying Process with 10 drop points[1]** | **2,671,800 each drop point** | **0.00009 each drop point** | **0.000033 each drop point** |
| **Screening Process, TSP-8** | **2,000,000** | **0.00075** | **0.00026** |
| **EU-10 Slag 25 Drop Points[5]** | **2,000,000 each drop point** | **0.00009 each drop point** | **0.000033 each drop point** |
| **Blend Plant Material handling Front-End Loader, BP-1** | **1,500,000** | **0.00026** | **0.00013** |
| **Blend Plant Conveying Process (6 Drop Points)[2]** | **1,500,000 each drop point** | **0.00009 each drop point** | **0.000033 each drop point** |
| **Temporary Screening Plant** | **525,600** | **0.00075** | **0.00026** |
| **Temporary Screening Conveying Process (6 Drop Points)[3]** | **525,600 each drop point** | **0.00009 each drop point** | **0.000033 each drop point** |
| **Replacement Screen, TSP-2** | **2,000,000** | **0.00075** | **0.00026** |
| **Conveying Process (5 drop points)[4]** | **2,671,800 each drop point #1-#5** | **0.00009 each drop point #1-#5** | **0.000033 each drop point #1-#5** |

The emission limits in lb/ton were based upon the uncontrolled EF (1-97%)

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

**[2] Six Drop Points:**
**#1 - #4 Hoppers drop slag into conveyor**
**#5 conveyor into stacker conveyor**
**#6 stacker conveyor to 3 storage piles**

**[3] Six Drop Points:**
**#1 from dedicated portable screen hopper to Conveyor #1**
**#2 from Conveyor #1 to Screen, PS1**
**#3 from Screen, PS1 to Conveyor #2**
**#4 from Screen, PS1 to Conveyor #3**
**#5 From Conveyor 2 to Storage Pile #1**
**#6 from Conveyor #3 to Storage Pile #2**

**[4] Five drop points:**
**#1 metal separated by the new magnetic separator into new storage pile**
**#4 slag that passed through the new magnetic separator**
**will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6**
**#5 from crusher, TSP-6 back to the new replacement screen TSP-2**
**#2 from new conveyor TSP-1 into new replacement screen, TSP-2**

**#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.**

**[5] Twenty-Five EU-10 Slag Drop Points**
**#1 TSP-8 to Shute F**
**#2 TSP- 8 to Shute G**
**#3 TSP-8 to Shute H**
**#4 TSP-8 to Shute I**
**#5 Shute F to Conveyor J**
**#6 Conveyor J to Conveyor K**
**#7 Conveyor K to Storage Pile #1**
**#8 Shute G to Conveyor L**
**#9 Magnetic Separator #3 to Storage Pile 7**
**#10 Conveyor L to Conveyor M**
**#11 Conveyor M to Storage Pile #2**
**#12 Shute H to Conveyor N**
**#13 Shute I to Conveyor N**
**#14 Magnetic Separator #4 and #5 to Storage Pile #8**
**#15 Conveyor N to Conveyor O**
**#16 Conveyor O to Cone Crusher**
**#17 Cone Crusher - PTE calculated in the above Table***
**#18 Cone Crusher to Conveyor P**
**#19 Conveyor P to Conveyor Q**
**#20 Conveyor Q to Screen TSP-8**
**#21 Shute H to Conveyor R**
**#22 Shute I to Conveyor R**
**#23 Conveyor R to Conveyor S**
**#24 Conveyor S to Storage Pile #3**
**#25 Magnetic Separator #6 to Storage Pile #9**

**(b) The PM and PM10 emissions from the Coil and Slag Cutting operation shall each not exceed 0.46 pound per hour.**

**(c) The Fugitive Dust Control Plan (included as Attachment A to this permit), shall be implemented to control fugitive particulate emissions from the Blending Plant (vehicular traffic, load-in and load-out of slag to 50 open storage piles and wind erosion from the 50 open storage piles).**

Compliance with this condition including Condition~~s~~ ~~D.7.7 and~~ D.32.1 shall limit the PM and PM10 emissions to less than 25 tons/year for PM and less than 15 tons/year for PM10, which renders the requirements of 326 IAC 2-2 (PSD) not applicable to ~~source modification permitted under~~ SSM No. 107-29766-00038.

D.7.5 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~(a) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the slag processing operation (EU-10) shall not exceed 63.2 pounds per hour when operating at a process weight rate of 305 tons per hour.~~

~~(e) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) crusher, EU-10 shall not exceed 51.27 pounds per hour when operating at a process weight rate of 100 tons per hour.~~

**(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following facilities shall not exceed the pound per hour limit listed in the table below when running at the listed maximum process weight rates:**

| Process/Facility | Process Weight Rate (tons/hour) | Particulate Emissions Limit (pounds/hour) |
|---|---|---|
| **Existing Slag processing -EU-10** | | |
| **Replacement Crusher, TSP-6** | **305** | **63.18** |
| **Conveying Process with 10 drop points[1]** | **305 each drop point** | **63.18 each drop point** |
| **Screening Process, TSP-8** | **447** | **67.6** |
| **EU-10 Slag 25 Drop Points[5]** | **447 each drop point** | **67.6 each drop point** |
| **Grizzly** | **305** | **63.18** |
| **Blend Plant** | | |
| **Material handling, Front End-Loader, BP-1** | **305** | **63.18** |
| **Blend Plant - 6 Conveying Drop Points[2]** | **305 each drop point** | **63.18 each drop point** |
| **Temporary Screening Plant** | | |
| **Temporary Screening Plant** | **60** | **46.3** |
| **Temporary Screening Plant -6 Conveying Drop Points[3]** | **60 each drop point** | **46.3 each drop point** |
| **Coil and Scrap Cutting, CC-1** | **70** | **47.8** |
| **Replacement Screen, TSP-2** | **341** | **64.5** |
| **Conveying Process (5 drop points)[4]** | **305 each drop point** | **63.18 each drop point** |

**[1] Ten Drop Points**
**#1 Existing conveyor (C) to new replacement crusher (TSP-6)**
**#2 New replacement crusher (TSP-6) to existing conveyor belt (D)**
**#3 Existing conveyor (D) to existing conveyor (B)**
**#4 Existing conveyor (B) to existing screen (TSP-2)**
**#5 Existing screen (TSP-8) to existing Shute (F)**
**#6 Existing screen (TSP-8) to existing Shute (G)**
**#7 Existing screen (TSP-8) to existing Shutes (H & I)**
**#8 Existing conveyor (K) to storage pile (SP-1)**
**#9 Existing conveyor (M) to storage pile (SP-2)**
**#10 Existing conveyor (S) to storage pile (SP-3)**

**[2] Six Drop Points:**
**#1 - #4 Hoppers drop slag into conveyor**
**#5 conveyor into stacker conveyor, drop point #6 stacker conveyor to 3 storage piles**

**[3] Six Drop Points:**
**#1 from dedicated portable screen hopper to Conveyor #1**
**#2 from Conveyor #1 to Screen, PS1**
**#3 from Screen, PS1 to Conveyor #2**
**#4 from Screen, PS1 to Conveyor #3**
**#5 From Conveyor 2 to Storage Pile #1**
**#6 from Conveyor #3 to Storage Pile #2**

**[4]Five Drop Points:**
**#1 metal separated by the new magnetic separator into new storage pile**

**#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6**
**#5 from crusher, TSP-6 back to the new replacement screen TSP-2**
**# 2 from new conveyor TSP-1 into new replacement screen, TSP-2**
**#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.**

**[5] Twenty-Five EU-10 Slag Drop Points**
**#1 TSP-8 to Shute F**
**#2 TSP- 8 to Shute G**
**#3 TSP-8 to Shute H**
**#4 TSP-8 to Shute I**
**#5 Shute F to Conveyor J**
**#6 Conveyor J to Conveyor K**
**#7 Conveyor K to Storage Pile #1**
**#8 Shute G to Conveyor L**
**#9 Magnetic Separator #3 to Storage Pile 7**
**#10 Conveyor L to Conveyor M**
**#11 Conveyor M to Storage Pile #2**
**#12 Shute H to Conveyor N**
**#13 Shute I to Conveyor N**
**#14 Magnetic Separator #4 and #5 to Storage Pile #8**
**#15 Conveyor N to Conveyor O**
**#16 Conveyor O to Cone Crusher**
**#17 Cone Crusher - PTE calculated in the above Table***
**#18 Cone Crusher to Conveyor P**
**#19 Conveyor P to Conveyor Q**
**#20 Conveyor Q to Screen TSP-8**
**#21 Shute H to Conveyor R**
**#22 Shute I to Conveyor R**
**#23 Conveyor R to Conveyor S**
**#24 Conveyor S to Storage Pile #3**
**#25 Magnetic Separator #6 to Storage Pile #9**

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

**(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.**

**D.7.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

**A Preventive Maintenance Plan, is required for the Coil and Scrap Cutting, CC-1 and its control device. Section B – Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan**.

**Compliance Determination Requirements**

**D.7.8 Particulate Control [326 IAC 2-7-6(6)]**

**In order to comply with Condition D.7.3(b) the Coil and Scrap Cutting, CC-1 shall be controlled by a baghouse at all times the Coil and Scrap Cutting, CC-1 is in operation.**

**In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

**D.7.9 Testing Requirements [326 IAC 2-1.1-11]**

**Not later than 60 days after achieving maximum production capacity, but no later than 180 days after initial startup of the Coil and Scrap Cutting operation (CC-1), the Permittee shall perform PM and PM10 testing on its baghouse to demonstrate compliance with its particulate emission limits in Condition D.7.3(b), utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every 2.5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.**

**Compliance Monitoring Requirements**

D.7.8**11** Visible Emissions Notations

(a) Visible emission notations of the exhaust**s** from MSS-1 **and CC-1** shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable steps in accordance with Section C – Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

**D.7.12 Baghouse Parametric Monitoring**

**The Permittee shall record the pressure drop across the baghouse used in conjunction with the Coil and Scrap Cutting, CC-1 at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 11.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this permit. A pressure reading that is outside the**

**above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.**

**The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once annually.**

**Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.7.~~9~~**13** Record Keeping Requirements

(a) To document **the** compliance **status** with Condition**s** D.7.2 **and D.7.3**, the Permittee shall maintain records of the **throughput weight to the** mill scale and EU-10 Slag emission units ~~throughput weight~~ for each compliance period.

(b) To document **the** compliance **status** with Condition ~~D.7.8~~, **D.7.11** the Permittee shall maintain records of the once per day visible emission notations. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (i.e. the process did not operate that day).**

**(c) To document the compliance status with Condition D.7.12, the Permitee shall maintain records of the once per day pressure drop reading. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**

(~~c~~ **d**) ~~All records shall be maintained in accordance with~~ Section C - General Record Keeping Requirements, ~~of this permit~~ **contains the Permittee's obligations with regard to the records required by this condition.**

D.7.~~10~~ **14** Reporting Requirements

~~A quarterly summary of the information to document compliance with Condition D.7.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.~~

**A quarterly report of throughput weight to the mill scale and EU-10 Slag emission units and a quarterly summary of the information to document the compliance status with Conditions D.*7.2* and D.7.3 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).**

**SECTION D.32 FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]:

B-Scrap Beneficiation operations approved in ~~2010~~ **2011** for construction, performed by Melt Solution, LLC:

(a) Material handling process with one (1) Front End-Loader, identified as BSBP-1, with a maximum throughpu rate of 100 tons per hour;

(b) Two (2) conveyor belts with magnetic separator, identified as BSBP-2, with a maximum throughput rate of 100 tons per hour;

(c) One (1) jaw crusher, identified as BSBP-3, with a maximum throughput rate of 100 tons per hour;

(d) One (1) screener, identified as BSBP-4, with a maximum throughput rate of 100 tons per hour;

(e) One (1) 425 brake horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5.

This process involves further processing of the finished product from the existing Slag Processing, EU-10. However it will not increase the slag production.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

*The limit in the hours of operation does not guarantee that the emission units from Melt Solution would not be operated beyond 100 tons/hr. Therefore, the hours per year of operation has been changed to throughput limit of 150,000 tons/year*.

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.32.1 Prevention of Significant Deterioration (PSD) Minor Limit for PM~~,~~ and PM10 ~~and PM2.5~~ Emissions [326 IAC 2-2]

(a) ~~The operation of the material handling (front end loader, BSBP-1), conveyor belts (BSBP-2), jaw crusher (BSBP-3) and screener (BSBP-4), associated with the B-Scrap Beneficiation process, shall each be limited to 1,500 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

**The PM and PM10 emissions from the following emissions units associated with the B-Scrap Beneficiation process by Melt Solution, LLC shall not exceed the limits listed in the table below:**

| Unit Description | Throughput Limit (tons/yr) | PM Emissions Limit (lb/ton) | PM10 Emissions Limit (lb/ton) |
|---|---|---|---|
| **Front End Loader - BSBP-1** | **150,000** | **0.00026** | **0.000129** |
| **Conveyor, BSBP-2 ( 4 drop points)** | **150,000 (each drop point #1 - #4)[1]** | **0.00009 (each drop point #1 - #4)[1]** | **0.000033 (each drop point #1 -#4)[1]** |
| **screener (BSBP-4),** | **150,000** | **0.00075** | **0.00026** |
| **Crusher, BSBP-3** | **150,000** | **0.00016** | **0.000072** |

**[1] Four Drop Points**
**#1 front end loader to feed hopper of crusher**
**#2 hopper to crusher chamber**
**#3 crusher to belt conveyor**
**#4 magnetic separator of conveyor to steel and slag piles.**

**(b) The PM and PM10 emissions from Generator, BSBP-5 shall each not exceed 0.93 pound per hour and it shall not operate at more than 1,500 hours per twelve consecutive month period, with compliace at the end of each month.**

Compliance with this condition and Conditions D.7.3 ~~and D.7.7~~ shall limit the PM **and** PM10 ~~and PM2.5~~ emissions to less than 25 tons/year for PM and less than 15 tons per year for ~~each~~ PM10 ~~and PM2.5~~, which renders the requirements of 326 IAC 2-2 (PSD) not applicable to ~~the source modification permitted under~~ SSM No. 107-~~29010~~ **29766**-00038.

***

D.32.2 Prevention of Significant Deterioration (PSD) Minor Limit for Nitrogen Oxides (NOx) Emissions [326 IAC 2-2]

The **NOx emissions from** ~~operation of~~ the 425 Brake Horsepower (BHP) diesel-fired generator, identified as BSBP-5 **shall not exceed 13.17 pounds per hour and it shall not operate at more than** ~~shall be limited to~~ 1,500 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this condition shall limit the Nitrogen Oxides (NOx) emissions to less than 40 tons per year and render 326 IAC 2-2, PSD requirements not applicable.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.32.4 Record Keeping Requirements

(a) To document **the** compliance **status** with Condition D.32.1 ~~and Condition D.32.2,~~ the Permittee shall maintain records of the ~~number of hours~~ **throughput** ~~that~~ **to each of** the material handling **facilities** (front end loader, BSBP-1), conveyor belts (BSBP-2), jaw crusher (BSBP-3), **and** screener (BSBP-4) ~~and diesel-fired generator (BSBP-5) have operated~~ each month.

(**b**) **To document the compliance status with Condition D.32.2, the Permittee shall maintain records of the number of hours that the diesel-fired generator (BSBP-5) has operated each month.**

(c) ~~All records shall be maintained in accordance with~~ Section C - General Record Keeping Requirements~~, of this permit.~~**contains the Permittee's obligations with regard to the records required by this condition.**

D.32.5 Reporting Requirements

A quarterly **report of the throughput from each of the B-Scrap Beneficiation emission units (BSBP-1, BSBP-2, BSBP-3 and BSBP-4) and hours of operation from generator, BSBP-5 and a quarterly** summary of the information to document compliance with Condition D.32.1 and Condition D.32.2 shall be submitted ~~to the address listed in Section C - General Reporting Requirements, of this permit~~, **not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligations with regard to the records required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).**

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
~~Mailing Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933~~
Part 70 Permit No.: T107-7172-00038
Facility: B-Scrap Beneficiation Process by Melt Solution, LLC
Front end loader, (BSBP-1), conveyor belts (BSBP-2), crusher (BSBP-3) and screener (BSBP-4)
Parameter: ~~Hours of Operation~~ **Throughput**
Limit: ~~1,500 operating hours~~ **150,000 tons** per twelve (12) consecutive month period.

QUARTER:_____ YEAR:_____

| Month | Column 1 ~~Hours Operated~~ **Throughput** This Month | | | | Column 2 ~~Hours Operated~~ **Throughput** 11 Months | | | | Column 1+2 ~~Hours Operated~~ **Throughput** 12 Month Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 | BSBP-1 | BSBP-2 (each drop point #1-#4) | BSBP-3 | BSBP-4 |
| Month 1 | | | | | | | | | | | | |
| Month 2 | | | | | | | | | | | | |
| Month 3 | | | | | | | | | | | | |

[1] **Four Drop Points**
**#1 front end loader to feed hopper of crusher**
**#2 hopper to crusher chamber**
**#3 crusher to belt conveyor**
**#4 magnetic separator of conveyor to steel and slag piles.**

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

**Source Name:** **Nucor Steel**
**Source Address:** **4537 South Nucor Road, Crawfordsville, Indiana 47933**
**Part 70 Permit No.:** **T107-7172-00038**
**Facility:** **Replacement Crusher, TSP-6; Conveying Process with 10 drop points[1]**
**Parameter:** **Throughput**
**Limits:**

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Replacement Crusher, TSP-6 | 2,671,800 |
| Conveying Process with 10 drop points[1] | 2,671,800 each drop point |

**QUARTER:_____ YEAR:_____**

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] | Replacement Crusher, TSP-6 | Conveying Process each 10 drop points[1] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[1] Ten Drop Points
#1 Existing conveyor (C) to new replacement crusher (TSP-6)
#2 New replacement crusher (TSP-6) to existing conveyor belt (D)
#3 Existing conveyor (D) to existing conveyor (B)
#4 Existing conveyor (B) to existing screen (TSP-2)
#5 Existing screen (TSP-8) to existing Shute (F)
#6 Existing screen (TSP-8) to existing Shute (G)
#7 Existing screen (TSP-8) to existing Shutes (H & I)
#8 Existing conveyor (K) to storage pile (SP-1)
#9 Existing conveyor (M) to storage pile (SP-2)
#10 Existing conveyor (S) to storage pile (SP-3)

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

**Source Name:** **Nucor Steel**
**Source Address:** **4537 South Nucor Road, Crawfordsville, Indiana 47933**
**Part 70 Permit No.:** **T107-7172-00038**
**Facility:** **Screening Process, TSP-8; EU-10 Slag 25 Drop Points[5]**
**Parameter:** **Throughput**
**Limits:**

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Screening Process, TSP-8 | 2,000,000 |
| EU-10 Slag 25 Drop Points[5] | 2,000,000 each drop point |

**QUARTER:_____ YEAR:_____**

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] | Screening Process, TSP-8 | EU-10 Slag 25 Drop Points[5] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

**[5] Twenty-Five EU-10 Slag Drop Points**
**#1 TSP-8 to Shute F**
**#2 TSP- 8 to Shute G**
**#3 TSP-8 to Shute H**
**#4 TSP-8 to Shute I**
**#5 Shute F to Conveyor J**
**#6 Conveyor J to Conveyor K**
**#7 Conveyor K to Storage Pile #1**
**#8 Shute G to Conveyor L**
**#9 Magnetic Separator #3 to Storage Pile 7**
**#10 Conveyor L to Conveyor M**
**#11 Conveyor M to Storage Pile #2**
**#12 Shute H to Conveyor N**
**#13 Shute I to Conveyor N**
**#14 Magnetic Separator #4 and #5 to Storage Pile #8**
**#15 Conveyor N to Conveyor O**
**#16 Conveyor O to Cone Crusher**
**#17 Cone Crusher**
**#18 Cone Crusher to Conveyor P**
**#19 Conveyor P to Conveyor Q**
**#20 Conveyor Q to Screen TSP-8**
**#21 Shute H to Conveyor R**
**#22 Shute I to Conveyor R**
**#23 Conveyor R to Conveyor S**
**#24 Conveyor S to Storage Pile #3**
**#25 Magnetic Separator #6 to Storage Pile #9**

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature:_____
Date: _____
Phone: _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

**Source Name:** **Nucor Steel**
**Source Address:** **4537 South Nucor Road, Crawfordsville, Indiana 47933**
**Part 70 Permit No.:** **T107-7172-00038**
**Facility:** **Blend Plant - Material handling Front-End Loader, BP-1; Blend Plant Conveying Process (6 Drop Points)[2]**
**Parameter:** **Throughput**
**Limits:**

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Blend Plant Material handling Front-End Loader, BP-1 | 1,500,000 |
| Blend Plant Conveying Process (6 Drop Points)[2] | 1,500,000 each drop point |

**QUARTER:_____ YEAR:_____**

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Months Total | |
|---|---|---|---|---|---|---|
| | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] | Blend Plant Material handling Front-End Loader, BP-1 | Blend Plant Conveying Process (6 Drop Points)[2] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[2] Six Drop Points:

#1 - #4 Hoppers drop slag into conveyor
#5 conveyor into stacker conveyor
#6 stacker conveyor to 3 piles

☐ **No deviation occurred in this quarter.**
☐ **Deviation/s occurred in this quarter.**
**Deviation has been reported on:**

**Submitted by:** _____
**Title / Position:**_____
**Signature:**_____
**Date:** _____
**Phone:** _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

## Part 70 Quarterly Report

**Source Name:** **Nucor Steel**
**Source Address:** **4537 South Nucor Road, Crawfordsville, Indiana 47933**
**Part 70 Permit No.:** **T107-7172-00038**
**Facility:** **Temporary Screening Plant, Temporary Screening Conveying Process (6 drop points)[3]**
**Parameter:** **Throughput**
**Limits:**

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Temporary Screening Plant | 525,600 |
| Temporary Screening Conveying Process (6 drop points)[3] | 525,600 each drop point |

**QUARTER:_____ YEAR:_____**

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Months Total | |
|---|---|---|---|---|---|---|
| | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] | Temporary Screening Plant | Temporary Screening Conveying Process (6 Drop Points)[3] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[3] Six Drop Points:

#1 from dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

☐ **No deviation occurred in this quarter.**
☐ **Deviation/s occurred in this quarter.**
**Deviation has been reported on:**

**Submitted by:** _____
**Title / Position:**_____
**Signature:**_____
**Date:** _____
**Phone:** _____

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

## OFFICE OF AIR QUALITY
## COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

**Source Name:** **Nucor Steel**
**Source Address:** **4537 South Nucor Road, Crawfordsville, Indiana 47933**
**Part 70 Permit No.:** **T107-7172-00038**
**Facility:** **Replacement Screen, TSP-2; Conveying Process (5 drop points)[4]**
**Parameter:** **Throughput**
**Limits:**

| Unit Description | Throughput Limit (tons/yr) |
|---|---|
| Replacement Screen, TSP-2 | 2,000,000 |
| Conveying Process (5 drop points)[4] | 2,671,800 each drop point |

**QUARTER: _____YEAR:_____**

| Month | Column 1 Throughput This Month | | Column 2 Throughput 11 Months | | Column 1+2 Throughput 12 Month Total | |
|---|---|---|---|---|---|---|
| | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] | Replacement Screen, TSP-2 | Conveying Process (each 5 drop points)[4] |
| Month 1 | | | | | | |
| Month 2 | | | | | | |
| Month 3 | | | | | | |

[4] Five drop points:
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator
will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6
#5 from crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

## Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached Significant Source Modification No. 107-29766-00038 and Part 70 Significant Permit Modification No. 107-29903-00038. The staff recommends to the Commissioner that these source and permit modifications be approved.

## IDEM Contact

(a) Questions regarding this proposed permit can be directed to Aida P. De Guzman at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4972 or toll free at 1-800-451-6027 extension *(*3-4972*)*.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
SSM No.: 107-29766
SPM No.: 107-29903
Plant No.: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

| | UNCONTROLLED PTE (TONS/YEAR) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | PM | PM10 | PM2.5 | CO | SO2 | VOC | NOx | HAPs |
| **New B-Scrap Beneficiation Process (Melt Solution LLC)** | | | | | | | | |
| Material Handling (Front End Loader - BSBP-1) | 3.85 | 1.88 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Conveyor, BSBP-2 ( 4 drop points) | 5.26 | 1.93 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Screen, BSBP-4 | 10.95 | 3.81 | 3.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crusher, BSBP-3 | 9.46 | 4.20 | 4.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, BSBP-5 | 4.10 | 4.10 | 4.10 | 12.43 | 3.82 | 4.68 | 57.71 | 0.015 Formaldehyde 0.05 Total |
| **New Blend Plant and Magnetic Separator** | | | | | | | | |
| Front-End Loader, BP-1 | 11.76 | 5.74 | 2.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Blend Plant - 6 Conveyor Drop Points* | 24.05 | 8.82 | 8.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Load-In and Load-Out Slag to 50 Slag Storage Open Piles | 0.89 | 0.42 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Wind Erosion from 50 Slag Storage Open Piles | 71.50 | 35.75 | 5.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions - New Blend Plant Vehicular Traffic | 80.00 | 22.12 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Temporary Screening Plant** | | | | | | | | |
| Temporary Screening Plant | 6.57 | 2.29 | 2.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporary Screening Plant - 6 Conveyor Drop Points | 4.73 | 1.73 | 1.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, TSP-3 | 0.93 | 0.93 | 0.93 | 2.84 | 0.87 | 1.07 | 13.17 | 0.0035 Formaldehyde 0.012 Total |
| Coil Cutter | 20.30 | 20.30 | 20.30 | 4.00 | 0.00 | 0.30 | 4.80 | 0.087 Hexane 0.091 Total |
| New Replacement Screen, TSP-2 | 37.34 | 11.62 | 11.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| #1-#5 Conveyor Drop Points | 20.04 | 7.35 | 7.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| #5 Drop Point (Crusher back to Screen, TSP-2) | | | | | | | | |
| Replacement Crusher, TSP-6 | 7.21 | 3.21 | 3.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL PTE OF NEW EMISSION UNITS** | **318.94** | **136.20** | **80.69** | **19.27** | **4.69** | **6.05** | **75.68** | **0.0185 Formaldehyde 0.153 Total** |
| **Existing Modified Slag Operation EU-10** | | | | | | | | |
| PTE Before Modification- Screening process, TSP-8 (from Page 15 of 18) | 33.4 | 11.62 | 11.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PTE Before Modification - EU-10 Slag Conveying Drop Points (#1-#24) (from Page 15 of 18) | 96.18 | 35.27 | 35.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PTE Before Modification - Cone Crusher (#25 drop point) (from Page 15 of 18) | 7.21 | 3.21 | 3.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total PTE Before Modification from TSP-8 and EU-10 Slag 25 drop points** | **136.79** | **50.10** | **50.10** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| PTE After Modification -Screening process, TSP-8 (from Page15 of 18) | 48.95 | 17.03 | 17.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PTE After Modification - EU-10 Slag Conveying Drop Points (#1-#24) (from Page 15 of 18) | 140.97 | 51.69 | 51.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PTE After Modification - Cone Crusher (#25 drop point) (from Page 15 of 18) | 9.79 | 4.70 | 4.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total PTE After Modification from TSP-8 and EU-10 Slag 25 drop points** | **199.70** | **73.42** | **73.42** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **PTE Net Increase from TSP-8 and EU-10 Slag 25 drop points** | **62.91** | **23.32** | **23.32** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| **TOTAL UNCONTROLLED PTE FROM NEW AND MODIFIED EMISSION UNITS** | **381.85** | **159.52** | **104.01** | **19.27** | **4.69** | **6.05** | **75.68** | 0.0185 Formaldehyde 0.153 Total |

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SSM No.: 107-29766
SPM No.: 107-29903
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Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

| | CONTROLLED PTE (TONS/YEAR) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | PM | PM10 | PM2.5 | CO | SO2 | VOC | NOx | HAPs |
| ***New B-Scrap Beneficiation Process (Melt Solution LLC)** | | | | | | | | |
| Material Handling (Front End Loader - BSBP-1) | 0.66 | 0.32 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Conveyor, BSBP-2 ( 4 drop points) | 0.9 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Screen, BSBP-4 | 1.88 | 0.65 | 0.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crusher, BSBP-3 | 1.62 | 0.72 | 0.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, BSBP-5 | 0.70 | 0.70 | 0.70 | 2.12 | 0.65 | 0.80 | 9.88 | 0.0017 Formaldehyde 0.0086 Total |
| **New Blend Plant and Magnetic Separator** | | | | | | | | |
| Front Loader, BP-1 | 0.35 | 0.17 | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Blend Plant - 6 Conveyor Drop Points* | 0.72 | 0.26 | 0.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Load-In and Load-Out Slag to 50 Slag Storage Open Piles | 0.03 | 0.01 | 0.002 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Wind Erosion from 50 Slag Storage Open Piles | 2.15 | 1.08 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions - New Blend Plant Vehicular Traffic | 8.00 | 2.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Temporary Screening Plant** | | | | | | | | |
| Temporary Screening Plant | 0.20 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporary Screening Plant - 6 Conveyor Drop Points | 0.14 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, TSP-3 | 0.93 | 0.93 | 0.93 | 2.84 | 0.87 | 1.07 | 13.17 | 0.0035 Formaldehyde 0.012 Total |
| Coil Cutter | 2.03 | 2.03 | 2.03 | 4.00 | 0.00 | 0.30 | 4.80 | 0.087 Hexane 0.091 Total |
| New Replacement Screen, TSP-2 | 1.12 | 0.39 | 0.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| #1-#5 Conveyor Drop Points<br>#5 Drop Point (Crusher back to Screen, TSP-2) | 0.60 | 0.22 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Replacement Crusher, TSP-6 | 0.22 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL Controlled PTE** | **22.25** | **10.24** | **7.00** | **8.96** | **1.52** | **2.17** | **27.85** | **0.11** |
| **ACTUAL TO POTENTIAL (ATP) TEST** | | | | | | | | |
| PTE Net Increase from TSP-8 and EU-10 drop points | 5.57 | 2.05 | 2.05 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL PROJECT EMISSIONS CHANGE** | **27.82** | **12.29** | **9.05** | **9.06** | **1.52** | **2.17** | **27.85** | **0.087 Hexane 0.11 Total** |
| PSD SIGNIFICANT LEVELS | 25 | 15 | 15 | 100 | 40 | 40 | 40 | -- |

*The Melt Solution,LLC, including Generator, BSBP-5 have been limited to 1,500 hrs/yr of operation and its throughput.

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| | CONTROLLED/LIMITED PTE (TONS/YEAR) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | PM | PM10 | PM2.5 | CO | SO2 | VOC | NOx | HAPs |
| ***New B-Scrap Beneficiation Process (Melt Solution LLC)** | | | | | | | | |
| Material Handling (Front End Loader - BSBP-1) | 0.66 | 0.32 | 0.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Conveyor, BSBP-2 ( 4 drop points) | 0.9 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Screen, BSBP-4 | 1.88 | 0.65 | 0.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crusher, BSBP-3 | 1.62 | 0.72 | 0.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, BSBP-5 | 0.70 | 0.70 | 0.70 | 2.12 | 0.65 | 0.80 | 9.88 | 0.0017 Formaldehyde 0.0086 Total |
| **New Blend Plant and Magnetic Separator** | | | | | | | | |
| Front Loader, BP-1 | 0.20 | 0.10 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Blend Plant - 6 Conveyor Drop Points* | 0.41 | 0.15 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Load-In and Load-Out Slag to 50 Slag Storage Open Piles | 0.02 | 0.01 | 0.002 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions -Wind Erosion from 50 Slag Storage Open Piles | 2.15 | 1.08 | 0.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fugitive Emissions - New Blend Plant Vehicular Traffic | 8.00 | 2.21 | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Temporary Screening Plant** | | | | | | | | |
| Temporary Screening Plant | 0.20 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Temporary Screening Plant - 6 Conveyor Drop Points | 0.14 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator, TSP-3 | 0.93 | 0.93 | 0.93 | 2.84 | 0.87 | 1.07 | 13.17 | 0.0035 Formaldehyde 0.012 Total |
| Coil Cutter | 2.03 | 2.03 | 2.03 | 4.00 | 0.00 | 0.30 | 4.80 | 0.087 Hexane 0.091 Total |
| New Replacement Screen, TSP-2 | 0.75 | 0.26 | 0.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| #1-#5 Conveyor Drop Points<br>#5 Drop Point (Crusher back to Screen, TSP-2) | 0.60 | 0.22 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Replacement Crusher, TSP-6 | 0.22 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL Controlled PTE** | **21.41** | **9.93** | **6.74** | **8.96** | **1.52** | **2.17** | **27.85** | **0.11** |
| **ACTUAL TO POTENTIAL (ATP) TEST** | | | | | | | | |
| PTE Net Increase from TSP-8 and EU-10 Slag #1-#25 drop points | 2.64 | 0.97 | 0.97 | 0.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| **TOTAL PROJECT EMISSIONS CHANGE** | **24.05** | **10.90** | **7.71** | **9.06** | **1.52** | **2.17** | **27.85** | **0.087 Hexane 0.11 Total** |
| PSD SIGNIFICANT LEVELS | 25 | 15 | 15 | 100 | 40 | 40 | 40 | -- |

*The Melt Solution,LLC, including Generator, BSBP-5 have been limited to 1,500 hrs/yr of operation and its throughput.

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| NEW B-SCRAP BENEFICIATION PROCESS (MELT SOLUTION LLC) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Uncontrolled/Controlled Potential to Emit | | | Limited PTE Based Upon 150,000 tons/year throughput @ 1,500 hours/year of Operation | | | |
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Material Handling (Front End Loader - BSBP-1) | 100 | 0.0088 | 0.0043 | 0.0016 | 3.85 | 1.88 | 0.70 | 0.66 | 0.32 | 0.12 | Table 12.5-4 |
| Conveyor, BSBP-2 ( 4 drop points) | 100 | 0.003 | 0.0011 | 0.0011 | 5.26 | 1.93 | 1.93 | 0.90 | 0.33 | 0.33 | Table 11.19.2-2 |
| Crusher, BSBP-3 | 100 | 0.0054 | 0.0024 | 0.0024 | 9.46 | 4.20 | 4.20 | 1.62 | 0.72 | 0.72 | |
| Screen, BSBP-4 | 100 | 0.025 | 0.0087 | 0.0087 | 10.95 | 3.81 | 3.81 | 1.88 | 0.65 | 0.65 | Table 11.19.2-2 |
| **TOTAL UNCONTROLLED PTE** | | | | | **29.52** | **11.83** | **10.64** | **5.06** | **2.03** | **1.82** | |

4 drop points - front end loader to feed hopper of crusher, hopper to crushing chamber, crusher to belt conveyor and magnetic separation conveyor to steel pile and slag pile.

Note: There are no controls employed for the new B-Scrap Beneficiation process.

Methodology:
PTE, tons/yr = Throughput, tons/hr * Emission Factor, lb/ton * 8760 hrs/yr * ton/2000 lbs
Uncontrolled PTE, tons/yr = Uncontrolled PTE /(1-control eff)

| NEW BLEND PLANT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | UNCONTROLLED PTE (TONS/YEAR) | | | CONTROLLED PTE (TONS/YEAR) | | | |
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Front End Loader, BP-1 | 305 | 0.0088 | 0.0043 | 0.0016 | 11.76 | 5.74 | 2.14 | 0.35 | 0.17 | 0.06 | Table 12.5-4 |
| Blend Plt -6 Conveyor Drop Points* | 305 | 0.0030 | 0.0011 | 0.0011 | 24.05 | 8.82 | 8.82 | 0.72 | 0.26 | 0.26 | Table 11.19.2-2 |
| NEW TEMPORARY SCREENING PLANT | | | | | | | | | | | |
| Temporary Screening Plant | 60 | 0.025 | 0.0087 | 0.0087 | 6.57 | 2.29 | 2.29 | 0.20 | 0.07 | 0.07 | Table 11.19.2-2 |
| Temporary Screening Plant - 6 Conveyor Drop Points | 60 | 0.0030 | 0.0011 | 0.0011 | 4.73 | 1.73 | 1.73 | 0.14 | 0.05 | 0.05 | Table 11.19.2-2 |
| **TOTAL PTE** | | | | | 47.10 | 18.58 | 14.98 | 1.41 | 0.56 | 0.45 | |

| NEW BLEND PLANT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | UNCONTROLLED PTE (TONS/YEAR) | | | LIMITED PTE (TONS/YEAR) | | | |
| **Process/Facility** | Limited Throughput (tons/yr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Front End Loader, BP-1 | 1,500,000 | 0.0088 | 0.0043 | 0.0016 | 6.60 | 3.23 | 1.20 | 0.20 | 0.10 | 0.04 | Table 12.5-4 |
| Blend Plt -6 Conveyor Drop Points* | 1,500,000 | 0.0030 | 0.0011 | 0.0011 | 13.50 | 4.95 | 4.95 | 0.41 | 0.15 | 0.15 | Table 11.19.2-2 |

**Blend Plt Six Conveyor Drop Points:**
*Drop points #1 - #4 Hoppers drop slag into conveyor (Each hopper is capable of handling 305 tons/hour slag)
Drop point #5 conveyor into stacker conveyor
Drop point #6 Stacker conveyor into open 3 storage piles

2) Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

**New Temporary Screening Plant with 6 Conveyor Drop Points:**
#1 Dedicated portable screen hopper to Conveyor #1
#2 from Conveyor #1 to Screen, PS1
#3 from Screen, PS1 to Conveyor #2
#4 from Screen, PS1 to Conveyor #3
#5 From Conveyor 2 to Storage Pile #1
#6 from Conveyor #3 to Storage Pile #2

Note: Temporary Screening Plant comes and goes but will be evaluated as a permanent stationary unit that will process Slag pile #1 from EU-10 Slag operation.
Drop Points #3 and #4 - Screen, PS1 output can either go to Conveyor #2 or Conveyor #3 or split between the 2 conveyors.

**Appendix A: Emission Calculations**
**Reciprocating Internal Combustion Engines - Diesel Fuel**
**Output Rating (<=600 HP)**
**Maximum Input Rate (<=4.2 MMBtu/hr)**

| | |
|---|---|
| Company Name: | Nucor Steel |
| Address, City IN Zip: | 4537 South Nucor Road, Crawfordsville, IN 47933 |
| SSM No.: | 107-29766 |
| SPM No.: | 107-29903 |
| Plt ID: | 107-00038 |
| Reviewer: | Aida De Guzman |
| Date Application Received: | 7-Oct-2010 |

**Emissions calculated based on output rating (hp)**

| | | | |
|---|---|---|---|
| Output Horsepower Rating (hp) | 425.0 | MELT SOLUTION GENERATOR, BSBP-5 | |
| Maximum Hours Operated per Year | 8760 | **1,500** | Limited Hours of Operation |
| Potential Throughput (hp-hr/yr) | 3,723,000 | | |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM* | PM10* | PM2.5* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/hp-hr | 0.0022 | 0.0022 | 0.0022 | 0.0021 | 0.0310 | 0.0025 | 0.0067 |
| Potential Emission in tons/yr | 4.10 | 4.10 | 4.10 | 3.82 | 57.71 | 4.68 | 12.43 |
| **Limited PTE @1,500 hrs/yr** | **0.70** | **0.70** | **0.70** | **0.65** | **9.88** | **0.80** | **2.13** |

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Hazardous Air Pollutants (HAPs)**

| | Pollutant | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Benzene | Toluene | Xylene | 1,3-Butadiene | Formaldehyde | Acetaldehyde | Acrolein | Total PAH HAPs*** |
| Emission Factor in lb/hp-hr**** | 6.53E-06 | 2.86E-06 | 2.00E-06 | 2.74E-07 | 8.26E-06 | 5.37E-06 | 6.48E-07 | 1.18E-06 |
| Potential Emission in tons/yr | 1.22E-02 | 5.33E-03 | 3.71E-03 | 5.09E-04 | 1.54E-02 | 9.99E-03 | 1.21E-03 | 2.19E-03 |
| **Limited PTE @1,500 hrs/yr** | **2.08E-03** | **9.13E-04** | **6.36E-04** | **8.72E-05** | **2.63E-03** | **1.71E-03** | **2.06E-04** | **3.75E-04** |

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

| | |
|---|---|
| **Potential Emission of Total HAPs (tons/yr)** | **8.64E-03** |

**Methodology**
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

**Appendix A: Emission Calculations**
**Reciprocating Internal Combustion Engines - Diesel Fuel**
**Output Rating (<=600 HP)**
**Maximum Input Rate (<=4.2 MMBtu/hr)**

| | |
|---|---|
| Company Name: | Nucor Steel |
| Address, City IN Zip: | 4537 South Nucor Road, Crawfordsville, IN 47933 |
| SSM No.: | 107-29766 |
| SPM No.: | 107-29903 |
| Plt ID: | 107-00038 |
| Reviewer: | Aida De Guzman |
| Date Application Received: | 7-Oct-2010 |

**Emissions calculated based on output rating (hp)**

| | | |
|---|---|---|
| Output Horsepower Rating (hp) | 97.0 | GENERATOR, TSP-3 |
| Maximum Hours Operated per Year | 8760 | |
| Potential Throughput (hp-hr/yr) | 849,720 | |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM* | PM10* | PM2.5* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/hp-hr | 0.0022 | 0.0022 | 0.0022 | 0.0021 | 0.0310 | 0.0025 | 0.0067 |
| Potential Emission in tons/yr | 0.93 | 0.93 | 0.93 | 0.87 | 13.17 | 1.07 | 2.84 |

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Hazardous Air Pollutants (HAPs)**

| | Pollutant | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Benzene | Toluene | Xylene | 1,3-Butadiene | Formaldehyde | Acetaldehyde | Acrolein | Total PAH HAPs*** |
| Emission Factor in lb/hp-hr**** | 6.53E-06 | 2.86E-06 | 2.00E-06 | 2.74E-07 | 8.26E-06 | 5.37E-06 | 6.48E-07 | 1.18E-06 |
| Potential Emission in tons/yr | 2.77E-03 | 1.22E-03 | 8.48E-04 | 1.16E-04 | 3.51E-03 | 2.28E-03 | 2.75E-04 | 5.00E-04 |

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

| | |
|---|---|
| **Potential Emission of Total HAPs (tons/yr)** | **1.15E-02** |

**Methodology**
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

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| Heat Input Capacity MMBtu/hr | | Potential Throughput MMCF/yr |
|---|---|---|
| 11.0 | Coil Cutter | 96.4 |

| | Pollutant | | | |
|---|---|---|---|---|
| | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 0.6 | 100<br>**see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.0 | 4.8 | 0.3 | 4.0 |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

| Facility/Operation | Baghouse Air Flow Rate (dscf/min) | Outlet Grain Loading (grain/dscf) | Baghouse Control Efficiency (%) | Controlled PM/PM10/PM2.5 PTE (tons/yr) | Uncontrolled PM/PM10/PM2.5 PTE (tons/yr) |
|---|---|---|---|---|---|
| Coil Cutting | 30,000 | 0.0018 | 90% | 2.03 | 20.3 |

Methodology:

PM/PM10/PM2.5 = Air flow rate, dscf/min * outlet grain loading, gr/dscf *lb/7000 gr * 60 min/hr * 8760 hrs/yr * ton/2000 lbs

**Appendix A: Emissions Calculations**
**Natural Gas Combustion Only**
**MM BTU/HR <100**
**HAPs Emissions**

**Company Name:** Nucor Steel
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11 MMBtu/hr Coil Cutter

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyd | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 1.012E-04 | 5.782E-05 | 3.614E-03 | 8.672E-02 | 1.638E-04 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 2.409E-05 | 5.300E-05 | 6.745E-05 | 1.831E-05 | 1.012E-04 |

| | |
|---|---|
| Worst Single HAP (Hexane) | 8.672E-02 |
| Combined HAPs | 9.092E-02 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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**WIND EROSION FROM 50 SLAG STORAGE OPEN PILES**

Nucor will have 50 slag piles. Each pile will be square-shaped with a side of approximately 66 feet (20.12 m) and a height of 8 feet (2.44 m).
Wind erosion was calculated according to the procedure in AP-42, Section 13.2.5, Industrial Wind Erosion.

**Step 1:**
The threshold friction velocity is taken from AP-42, Table 13.2.5-2, page 13.2.5-5.
The threshold velocity for overburden (crushed stone) is 1.02 m/s.

**Step 2:**
The slag piles are assumed to closely resemble Pile "A" in AP-42, Figure 13.2.5-2, page 13.2.5-7. Pile "A" is divided into 3 areas in Figure 13.2.5-3, page 13.2.5-10 as follows:

Area A: $= \frac{(u_s)}{u_r} = 0.9$, 12% of pile surface area

Area B: $= \frac{(u_s)}{u_r} = 0.6$, 48% of pile surface area

Area C: $= \frac{(u_s)}{u_r}$ 0.2, 40% of pile surface area

where: $u_s$ = surface wind speed and $u_r$ = approach wind speed

Area A is assumed to be the only disturbed area of the pile. This area will be disturbed every other day; therefore N = 183 where N = number of disturbances per year.

**Step 3:**
The maximum 2-minute wind speed at the Indianapolis, IN National Weather Service station in 2009 was 60 mph. The anemometer height is 20 ft. This must be corrected to 10 m (32.8 ft). Equation 5 from AP-42, page 13.2.5-6:

$$u_{10}^{+} = u^{+} \frac{\ln(10/0.005)}{\ln(z/0.005)}$$

Where: $U^{+}_{10}$ = fastest mile value correct for 10-m anemometer height

$u^{+}$ = fastest mile value at actual anemometer height (60 mph)

z = anemometer height (20 ft = 6.096 m)



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Therefore, $U^+_{10} = \frac{60 \ln(10/0.005)}{\ln(6.096/0.005)} = 64.18$ mph

**Step 4:**
The surface wind speed distribution is calculated using Equation 6 from AP-42, page 13.2.5-6:

$$u_s^+ = \frac{(u_s)}{u_r} u_{10}^+$$

Where: $U^+_s$ = surface wind speed distribution in m/s

$(u_s)$ = ratio of surface wind speed to approach wind speed

$u_r$ (see Step 2)

$U^+_{10}$ = fastest mile value corrected for 10-m anemometer height (see Step 3)

Therefore, = (0.9)(64.18)(0.44704) = 25.82 m/s.

The surface friction velocity is then calculated using Equation 7 from AP-42, page 13.2.5-8:

$$u^* = \frac{0.4u_s^+}{\frac{25}{\ln 0.5}} = 0.10u_s^+$$

Where: u* = surface friction velocity in m/s

$U^+_s$ = surface wind speed distribution in m/s

Therefore, $U^+_s$ = 0.10(25.82) = 2.582 m/s. Since Area A is the only disturbed area on the pile, this is the only surface friction velocity necessary.

**Step 5:**
The size of Area A is calculated as follows:

A = ∏rl × 12%

Therefore, the surface area of Area A is A = ∏(10.06)(10.35)(12%) = 39.23 m2.

**Step 6:**
The erosion potential is calculated using Equation 3, AP-42, page 13.2.5-3:

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$$P = 58(u^* - u_t^*)^2 + 25(u^* - u_t^*)$$

P = 0 for u* ≤ u*$_t$

u* = surface friction velocity in m/s
= threshold friction velocity in m/s

Therefore, for Area A, the erosion potential is P = 58(2.582 - 1.02)2 + 25(2.582 - 1.02)
= 180.59 g/m2.

**Step 7:**

Particulate matter (PM) emissions are calculated by multiplying the erosion potential P by the surface area of Area A.

Uncontrolled PM = (39.23 m2)(180.59 g/m2) = 7,084.5 g/day
Controlled PM = (39.23 m2)(180.59 g/m2)(1 - 90%) = 708.5 g/day

Multiply PM emissions by N to determine annual emissions:

**Uncontrolled** **PM** = 7,084.5 g/day * N = (7,084.5)183 = 1,296,463.5 g/year
*lb/453.5 grams * ton/2000 lbs * 50 piles = 71.5 tons/yr
**Controlled** **PM** = 71. 5 tons/yr *(1-97%) * 50 piles = 2.15 tons/yr

From AP-42, page 13.2.5-3, calculate PM10 emissions using particle size multiplier k = 0.5:

**Uncontrolled** **PM10** = k(PM) = 0.5 * (71.5 tons/year) = 35.75 tons/year
**Controlled** **PM10**= 0.5 * (2.15 tons/yr ) = 1.08 tons/yr

From AP-42, page 13.2.5-3, calculate PM2.5 emissions using particle size multiplier k = 0.075:

**Uncontrolled** **PM2.5** = k(PM) = 0.075 * (71.5 tons/year) = 5.4 tons/year
**Controlled** **PM2.5** = 0.075 * (2.15 tons/year ) = 0.16 ton/yr

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| | | NEW BLEND PLANT FUGITIVE EMISSIONS FROM SLAG HANDLING - Load-in and Load-out Slag to 50 Slag Storage Open Piles, SS-1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EMISSION FACTORS | | | | | | | POTENTIAL TO EMIT | | | | | |
| | | UNCONTROLLED | | | CONTROLLED | | | | UNCONTROLLED | | | CONTROLLED | | |
| **Description** | **m** | PM EF (lbs/ton) | PM10 -EF (lbs/ton) | PM2.5 -EF (lbs/ton) | PM EF (lbs/ton) | PM10 -EF (lbs/ton) | PM2.5 -EF (lbs/ton) | PROD.* (ton/year) | PM (tons/yr) | PM-10 (tons/yr) | PM-2.5 (tons/yr) | PM (tons/yr) | PM-10 (tons/yr) | PM-2.5 (tons/yr) |
| New Blend Plant Slag Open Piles | 1.50 | 0.003542 | 0.001675 | 0.000254 | 0.000106 | 0.000050 | 0.000008 | 500,000 | 0.89 | 0.42 | 0.06 | 0.03 | 0.01 | 0.002 |

PROD* - is based upon 250,000 tons/yr of slag loaded into 50 slag storage piles + 250,000 tons/yr loaded out from the storage piles.

1) Reference AP-42, 13.2.4.3, Eq 1, 1/95.

EF=k*(0.0032)*((u/5)^1.3)/((m/2)^1.4)
(batch and continuous loading)

| Varb. | Value | Units | Comments |
|---|---|---|---|
| k | 0.74 | | Particle Size multiplier < 30 um (AP-42, Table 13.2.4.3, 11/96) |
| k' | 0.35 | | Particle Size multiplier < 10 um (AP-42, Table 13.2.4.3, 11/96) |
| $k^2$ | 0.053 | | Particle Size multiplier < 2.5 um (AP-42, Table 13.2.4.3, 11/96) |
| u | 5 | MPH | mean wind speed, meters per second (m/s) (miles per hour [mph]) |
| m | 1.50 | % | Unprocessed Material Moisture Content of Slag Stockpiles (Submitted by Nucor ) |

2) Fugitive Dust Control Plan requires 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

PTE tons/year = {EF (lbs/ton) X Prod. (tons/yr)} / (2000 lbs/ 1 ton)

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**FUGITIVE PARTICULATE EMISSIONS FROM THE NEW BLENDING PLANT VEHICULAR TRAFFIC**

**1. Emission Factors: AP-42**

Using AP-42, Chapter 13.2.2 - Unpaved Roads (12/03), the PM,PM10 and PM2.5 emission factors for unpaved road: can be estimated from the following equation:

$$E = k \times (s/12)^a \times (w/3)^b$$

where:

| | | | |
|---|---|---|---|
| E = | emission factor (lb/vehicle mile traveled) | | |
| s = | surface material silt content (%) = | 6.0 | (%) (AP-42, Table 13.2.2-1) |
| w = | mean vehicle weight (tons) = | 39.0 | tons Front -end loaders |
| | | 29.0 | tons customer haul trucks |
| | | 58.0 | tons slag haul trucks |
| a = | empirical constant = | 0.7 | PM |
| | | 0.9 | PM and PM10 |
| b = | empirical constant = | 0.45 | PM, PM10 and PM2.5 |
| k (lb/VMT) = | empirical constant = | 4.9 | PM |
| | | 1.5 | PM10 a |
| | | 0.15 | PM2.5 |
| VMT | vehicle mile travelled | 7,531 | front end loaders |
| | | 4,889 | customer haul trucks |
| | | 4,123 | slag haul trucks |

**Front End Loaders:**

| | | |
|---|---|---|
| PM Emission Factor = E * (lb/VMT) = 4.9 * (6/12)^ 0.7 * (39/3)^ 0.45 = | **9.60** | lb/mile |
| PM10 Emission Factor = E * (lb/VMT) = 1.5* (6/12)^ 0.9 * (39/3)^ 0.45 = 2.55 lbs/mile | **2.55** | lb/mile |
| PM2.5 Emission Factor = E * (lb/VMT) = 0.15* (6/12)^ 0.9 * (39/3)^ 0.45 = | **0.25** | lb/mile |

**Customer Haul Trucks:**

| | | |
|---|---|---|
| PM Emission Factor = E * (lb/VMT) = 4.9 * (6/12)^ 0.7 * (29/3)^ 0.45 = | **8.30** | lb/mile |
| PM10 Emission Factor = E * (lb/VMT) = 1.5* (6/12)^ 0.9 * (29/3)^ 0.45 = 2.23 lbs/mile | **2.55** | lb/mile |
| PM2.5 Emission Factor = E * (lb/VMT) = 0.15* (6/12)^ 0.9 * (29/3)^ 0.45 = | **0.22** | lb/mile |

**Slag Haul Trucks:**

| | | |
|---|---|---|
| PM Emission Factor = E * (lb/VMT) = 4.9 * (6/12)^ 0.7 * (58/3)^ 0.45 = | **11.43** | lb/mile |
| PM10 Emission Factor = E * (lb/VMT) = 1.5* (6/12)^ 0.9 * (58/3)^ 0.45 = 2.23 lbs/mile | **3.05** | lb/mile |
| PM2.5 Emission Factor = E * (lb/VMT) = 0.15* (6/12)^ 0.9 * (58/3)^ 0.45 = | **0.30** | lb/mile |

**2. Potential to Emit (PTE) of PM, PM10 and PM2.5 Before Control from Paved Roads:**

| | | UNCONTROLLED PTE | | | CONTROLLED PTE | | |
|---|---|---|---|---|---|---|---|
| **Vehicle Type** | **Vehicle Mile Traveled (VMT) (miles/yr)** | **PM tons/yr** | **PM10 tons/yr** | **PM2.5 tons/yr** | **PM tons/yr** | **PM10 tons/yr** | **PM2.5 tons/yr** |
| Front End Loader | 7,531 | 36.15 | 9.60 | 0.94 | 3.6 | 1.0 | 0.09 |
| Customer Haul Trucks | 4,889 | 20.29 | 6.23 | 0.55 | 2.0 | 0.6 | 0.05 |
| Slag Haul Trucks | 4,123 | 23.56 | 6.29 | 0.62 | 2.4 | 0.6 | 0.06 |
| **Total** | | **80.00** | **22.12** | **2.10** | **8.0** | **2.21** | **0.21** |

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

Methodology:
PTE, tons/yr = Emission factor, lb/mile * (VMT, miles/yr) * ton/2000 lbs

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| REPLACEMENT OF TSP-2 SCREEN AT SLAG OPERATIONS, EU-10 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | UNCONTROLLED PTE (TONS/YEAR) | | | CONTROLLED PTE (TONS/YEAR) | | | |
| | | | | | Uncontrolled PTE After Modification | | | Controlled PTE After Modification | | | |
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| | | | | | | | | | | | |
| New Replacement Screen, TSP-2 | 341 | 0.025 | 0.0087 | 0.0087 | 37.34 | 12.99 | 12.99 | 1.12 | 0.39 | 0.39 | Table 11.19.2-2 |
| #1- #4 Conveyor Drop Points* | 305 | 0.003 | 0.0011 | 0.0011 | 20.04 | 7.35 | 7.35 | 0.60 | 0.22 | 0.22 | Table 11.19.2-2 |
| #5 Drop Point (crusher back to screen, TSP-2) * | | | | | | | | | | | |
| **TOTAL UNCONTROLLED PTE** | | | | | ***57.38*** | ***20.34*** | **20.34** | **1.72** | **0.61** | **0.61** | |

| LIMITED PTE (TONS/YEAR) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | Limited Throughput (tons/yr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| New Replacement Screen, TSP-2 | 2,000,000.00 | 0.025 | 0.0087 | 0.0087 | 25.00 | 8.70 | 8.70 | 0.75 | 0.26 | 0.26 | Table 11.19.2-2 |

Existing 204 ton/hr screen, TSP-2 be replaced by a 305 ton/hr screen. It is not identical to the screen that is being replaced. Therefore, it is not considered an existing emission unit.

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

**Five new conveyor drop points*:**
#1 metal separated by the new magnetic separator into new storage pile
#4 slag that passed through the new magnetic separator will be transferred via either 1 of the new conveyors TSP-1 or TSP-5 one of which will be routed to the 305 tons/hour replacement crusher, TSP-6.
#5 from this crusher, TSP-6 back to the new replacement screen TSP-2
# 2 from new conveyor TSP-1 into new replacement screen, TSP-2
#3 from new replacement screen, TSP-2 to existing screening process, TSP-8 rated at 447 tons/hr.

*Note: TSP-2 rated at 341 tons/hr, will not result in increase utilization from the existing downstream processes. The slag material is just being re-routed after being crushed to go through screens TSP-2 and TSP-8 again. Screened slag from TSP-2 goes to Screen TSP-8 then its output goes into 4 outlets, piles 1, 2, 3 and cone crusher each rated at 305 tons/hr.*

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| MODIFICATION TO EXISTING SCREENING PROCESS, TSP-8 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | UNCONTROLLED PTE (TONS/YEAR) | | | CONTROLLED PTE (TONS/YEAR) | | | |
| | | | | | Uncontrolled PTE After Modification | | | Controlled PTE After Modification | | | |
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Existing Screening Process, TSP-8 | 447 | 0.0250 | 0.0087 | 0.0087 | 48.95 | 17.03 | 17.03 | 1.47 | 0.51 | 0.51 | Table 11.19.2-2 |
| EU-10 Slag Conveying drop points (#1- #24) | 447 | 0.003 | 0.0011 | 0.0011 | 140.97 | 51.69 | 51.69 | 4.23 | 1.55 | 1.55 | Table 11.19.2-2 |
| Cone Crusher * | 447 | 0.005 | 0.0024 | 0.0024 | 9.79 | 4.70 | 4.70 | 0.29 | 0.14 | 0.14 | Table 11.19.2-2 |
| **TOTAL PTE** | | | | | ***199.70*** | ***73.42*** | ***73.42*** | ***5.99*** | ***2.20*** | ***2.20*** | |
| | | | | | **Uncontrolled PTE Before Modification** | | | **Controlled PTE Before Modification** | | | |
| Existing Screening Process, TSP-8 | 305 | 0.0250 | 0.0087 | 0.0087 | 33.40 | 11.62 | 11.62 | 1.00 | 0.35 | 0.35 | |
| EU-10 Slag Conveying drop points (#1- #24) | 305 | 0.003 | 0.0011 | 0.0011 | 96.18 | 35.27 | 35.27 | 2.89 | 1.06 | 1.06 | |
| Cone Crusher * | 305 | 0.005 | 0.0024 | 0.0024 | 7.21 | 3.21 | 3.21 | 0.22 | 0.10 | 0.10 | |
| **TOTAL PTE** | | | | | ***136.80*** | ***50.10*** | ***50.10*** | ***4.10*** | ***1.50*** | ***1.50*** | |
| **PTE Net Increase** | | | | | ***62.91*** | ***23.32*** | ***23.32*** | ***1.89*** | ***0.70*** | ***0.70*** | |

Existing 305 ton/hr screening process, TSP-8 capacity will be increased to 447 tons/hr. Downstream 25 conveying drop points will be debottlenecked from 305 tons/hr to 447 tons/hr.
All conveying drop points will assume the worst case throughput of 447 tons/hr, although there are instances when the 447 tons/hr slag material is split among 2 or 3 conveying drop points.

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

**25 EU-10 Slag Drop Points:**
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
#8 Shute G to Conveyor L
#9 Magnetic Separator #3 to Storage Pile #7
#10 Conveyor L to Conveyor M
#11 Conveyor M to Storage Pile #2
#12 Shute H to Conveyor N
#13 Shute I to Conveyor N
#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
#21 Shute H to Conveyor R
#22 Shute I to Conveyor R
#23 Conveyor R to Conveyor S
#24 Conveyor S to Storage Pile #3
#25 Magnetic Separator #6 to Storage Pile #9

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
SSM No.: 107-29766
SPM No.: 107-29903
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

**ACTUAL TO POTENTIAL (ATP) TEST**

| | | | | | Uncontrolled Potential | | | Controlled Potential | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Existing Screening Process, TSP-8 | 447 | 0.0250 | 0.0087 | 0.0087 | 48.95 | 17.03 | 17.03 | 1.47 | 0.51 | 0.51 | Table 11.19.2-2 |
| EU-10 Slag Conveying drop points (#1- #24) | 447 | 0.0030 | 0.0011 | 0.0011 | 140.97 | 51.69 | 51.69 | 4.23 | 1.55 | 1.55 | Table 11.19.2-2 |
| Cone Crusher * | 447 | 0.0050 | 0.0024 | 0.0024 | 9.79 | 4.70 | 4.70 | 0.29 | 0.14 | 0.14 | Table 11.19.2-2 |
| **TOTAL POTENTIAL EMISSION** | | | | | ***199.70*** | ***73.42*** | ***73.42*** | ***5.99*** | ***2.20*** | ***2.20*** | |

**BASELINE ACTUAL EMISSIONS**

| | | | | | Baseline Actual Uncontrolled Emissions | | | Baseline Actual Controlled Emissions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | **Actual Hours of Operations** |
| Existing Screening Process, TSP-8 | 190 | 0.0250 | 0.0087 | 0.0087 | 3.44 | 1.20 | 1.20 | 0.10 | 0.04 | 0.04 | 1,448 |
| EU-10 Slag Conveying drop points (#1- #24) | 190 | 0.0030 | 0.0011 | 0.0011 | 9.90 | 3.63 | 3.63 | 0.30 | 0.11 | 0.11 | 1,448 |
| Cone Crusher * | 190 | 0.0050 | 0.0024 | 0.0024 | 0.69 | 0.33 | 0.33 | 0.02 | 0.01 | 0.01 | 1,448 |
| **TOTAL BASELINE ACTUAL EMISSIONS** | | | | | ***14.03*** | ***5.16*** | ***5.16*** | ***0.42*** | ***0.15*** | ***0.15*** | |
| **PTE NET INCREASE** | | | | | ***185.67*** | ***68.26*** | ***68.26*** | ***5.57*** | ***2.05*** | ***2.05*** | |

Note: see detailed actual production rates and actual hours of operation on page 15 of 16 of this APP A to the TSD.
Existing 305 ton/hr screening process, TSP-8 capacity will be increased to 447 tons/hr. Downstream 25 conveying drop points will be debottlenecked from 305 tons/hr to 447 tons/hr.
All conveying drop points will assume the worst case throughput of 447 tons/hr, although there are instances when the 447 tons/hr slag material is split among 3 or 4 conveying drop points.

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

**25 EU-10 Slag Drop Points:**
#1 TSP-8 to Shute F
#2 TSP- 8 to Shute G
#3 TSP-8 to Shute H
#4 TSP-8 to Shute I
#5 Shute F to Conveyor J
#6 Conveyor J to Conveyor K
#7 Conveyor K to Storage Pile #1
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#12 Shute H to Conveyor N
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#14 Magnetic Separator #4 and #5 to Storage Pile #8
#15 Conveyor N to Conveyor O
#16 Conveyor O to Cone Crusher
#17 Cone Crusher - PTE calculated in the above Table*
#18 Cone Crusher to Conveyor P
#19 Conveyor P to Conveyor Q
#20 Conveyor Q to Screen TSP-8
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Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
SSM No.: 107-29766
SPM No.: 107-29903
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

| ACTUAL TO POTENTIAL (ATP) TEST | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Uncontrolled PTE | | | Controlled/Limited PTE | | | |
| **Process/Facility** | Limited Throughput (tons/yr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | AP-42 |
| Existing Screening Process, TSP-8 | 2,000,000 | 0.0250 | 0.0087 | 0.0087 | 25.00 | 8.70 | 8.70 | 0.75 | 0.26 | 0.26 | Table 11.19.2-2 |
| EU-10 Slag Conveying drop points (#1- #24) | 2,000,000 | 0.0030 | 0.0011 | 0.0011 | 72.00 | 26.40 | 26.40 | 2.16 | 0.79 | 0.79 | Table 11.19.2-2 |
| Cone Crusher * | 2,000,000 | 0.0050 | 0.0024 | 0.0024 | 5.00 | 2.40 | 2.40 | 0.15 | 0.07 | 0.07 | Table 11.19.2-2 |
| **TOTAL POTENTIAL EMISSION** | | | | | ***102.00*** | ***37.50*** | ***37.50*** | ***3.06*** | ***1.13*** | ***1.13*** | |

| BASELINE ACTUAL EMISSIONS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Baseline Actual Uncontrolled Emissions | | | Baseline Actual Controlled Emissions | | | |
| | Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | **Actual Hours of Operations** |
| Existing Screening Process, TSP-8 | 190 | 0.0250 | 0.0087 | 0.0087 | 3.44 | 1.20 | 1.20 | 0.10 | 0.04 | 0.04 | 1,448 |
| EU-10 Slag Conveying drop points (#1- #24) | 190 | 0.0030 | 0.0011 | 0.0011 | 9.90 | 3.63 | 3.63 | 0.30 | 0.11 | 0.11 | 1,448 |
| Cone Crusher * | 190 | 0.0050 | 0.0024 | 0.0024 | 0.69 | 0.33 | 0.33 | 0.02 | 0.01 | 0.01 | 1,448 |
| **TOTAL BASELINE ACTUAL EMISSIONS** | | | | | **14.03** | **5.16** | **5.16** | **0.42** | **0.15** | **0.15** | |
| **PTE NET INCREASE** | | | | | **87.97** | **32.34** | **32.34** | **2.64** | **0.97** | **0.97** | |

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
SSM No.: 107-29766
SPM No.: 107-29903
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

Actual Operating Hours and Production Rates from EU-10 slag Operation

| | **Run Time for the Month** | **Tons/Month** | **Actual throughput Tons/hour** | | |
|---|---|---|---|---|---|
| Mar-08 | 148.65 | 30,910.00 | 207.94 | | |
| Apr-08 | 105.00 | 20,985.00 | 199.86 | | |
| May-08 | 193.75 | 19,088.14 | 98.52 | | |
| Jun-08 | 90.50 | 21,701.61 | 239.80 | | |
| Jul-08 | 183.00 | 33,508.30 | 183.11 | | |
| Aug-08 | 142.39 | 28,154.65 | 197.73 | | |
| Sep-08 | 135.50 | 32,677.67 | 241.16 | | |
| Oct-08 | 78.70 | 29,607.53 | 376.21 | | |
| Nov-08 | 103.50 | 26,800.00 | 258.94 | | |
| Dec-08 | 73.50 | 27,300.00 | 371.43 | | |
| Jan-09 | 92.50 | 23,873.80 | 258.10 | | |
| Feb-09 | 88.25 | 23,316.00 | 264.20 | | |
| **Total 2008-2009** | **1435.24** | **317,922.70** | **221.51** | ← | average tons/hour |
| Mar-09 | 105.00 | 25,950.34 | 247.15 | | |
| Apr-09 | 60.50 | 12,021.97 | 198.71 | | |
| May-09 | 91.25 | 18,192.39 | 199.37 | | |
| Jun-09 | 84.00 | 20,310.92 | 241.80 | | |
| Jul-09 | 98.00 | 13,802.01 | 140.84 | | |
| Aug-09 | 129.75 | 17,051.06 | 131.41 | | |
| Sep-09 | 136.25 | 13,924.92 | 102.20 | | |
| Oct-09 | 167.25 | 18,215.86 | 108.91 | | |
| Nov-09 | 149.75 | 31,350.90 | 209.35 | | |
| Dec-09 | 149.50 | 24,975.64 | 167.06 | | |
| Jan-10 | 143.50 | 17,195.18 | 119.83 | | |
| Feb-10 | 146.25 | 18,768.88 | 128.33 | | |
| **Total 2009-2010** | **1461.00** | **231,760.07** | **158.63** | ← | average tons/hour |
| **Average for 2 years** | **1448 hours/yr** | | **190 tons/hour** | | |

Company Name: Nucor Steel
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SSM No.: 107-29766

SPM No.: 107-29903
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 7-Oct-2010

**Crusher, TSP-6 Increase in Capacity**

| | | | | | Uncontrolled Potential to Emit | | | Controlled Potential to Emit | | | AP-42 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Process/Facility** | Maximum Throughput Rate (tons/hr) | PM Emission Factor (lb/ton) | PM10 Emission Factor | PM2.5 Emission Factor | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | PM Emissions (tons/yr) | PM10 Emissions (tons/yr) | PM2.5 Emissions (tons/yr) | |
| Replacement Crusher, TSP-6 | 305 | 0.0054 | 0.0024 | 0.0024 | 7.21 | 3.21 | 3.21 | 0.22 | 0.10 | 0.10 | Table 12.5-4 |
| **TOTAL UNCONTROLLED PTE** | | | | | **7.21** | **3.21** | **3.21** | **0.22** | **0.10** | **0.10** | |

** A new 100 tons/hr crusher permitted in SSM 107-29010-00038 replaced the 50 tons/hr crusher. In this permitting action SSM 107-29766 this 100 tons/hr crusher capacity will be increased to 305 tons/hour.
The existing downstream processes, EU-10 slag conveyors are permitted at 305 tons/hour, therefore, there will be no increase in utilization.
from these downstream processes.

Fugitive Dust Control Plan requires fugitive dust control = 97% from storage piles and slag processing operations.
90% from unpaved roadways and travelled open areas.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**


**SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED**

TO: David A. Sulc
Nucor Steel
4537 S Nucor Rd
Crawfordsville, IN 47933

DATE: April 21, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V
107-29903-00038

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
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**Governor**

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**Commissioner**

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(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**

April 21, 2011

TO: Crawfordsville Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: Nucor Steel**
**Permit Number: 107-29903-00038**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
**www.idem.IN.gov**

TO: Interested Parties / Applicant

DATE: April 21, 2011

RE: Nucor Steel / 107-29903-00038

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

**Please Note:** *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

# Mail Code 61-53

| IDEM Staff | CDENNY 4/21/2011<br>Nucor Steel 107-29903-00038 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
|---|---|---|---|---|
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | David A. Sulc Nucor Steel 4537 S Nucor Rd Crawfordsville IN 47933 (Source CAATS) | | | | | | | | | |
| 2 | | Ronald Dickerson VP/ GM Nucor Steel 4537 S Nucor Rd Crawfordsville IN 47933 *(RO CAATS)* | | | | | | | | | |
| 3 | | Crawfordsville City Council and Mayors Office 300 E. Pike St Crawfordsville IN 47933 *(Local Official)* | | | | | | | | | |
| 4 | | Myrna Kinney 3225 SR 55 N. Crawfordsville IN 47933 *(Affected Party)* | | | | | | | | | |
| 5 | | Mr. Stephen Gintry #22 1715 Lebanon Road Crawfordsville IN 47933 *(Affected Party)* | | | | | | | | | |
| 6 | | Mr. Ronald Barnett 4913 Wellington Blvd. Crawfordsville IN 47933 *(Affected Party)* | | | | | | | | | |
| 7 | | Sowders Resident 605 Whitlock Ave. Crawfordsville IN 47933 *(Affected Party)* | | | | | | | | | |
| 8 | | Montgomery County Health Department 110 W. South Blvd Suite 100 Crawfordsville IN 47933-3351 *(Health Department)* | | | | | | | | | |
| 9 | | Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)* | | | | | | | | | |
| 10 | | Mr. Chet Parsons 512 E Main Street Ladoga IN 47954 *(Affected Party)* | | | | | | | | | |
| 11 | | Ms. Cheryl Cunningham 512 E Main Street Ladoga IN 47954 *(Affected Party)* | | | | | | | | | |
| 12 | | Mr. Herbert Wendemann 25 W 130 Setauket Ave Naperville IL 60540 *(Affected Party)* | | | | | | | | | |
| 13 | | Paul Sutton 9634 E. 150 N. Darlington IN 47940 (Affected Party) | | | | | | | | | |
| 14 | | Mr. Robert Ford RR 1, Box 233 New Ross IN 47968 *(Affected Party)* | | | | | | | | | |
| 15 | | June Truax 3750 US 136 E Crawfordsville IN 47933 *(Affected Party)* | | | | | | | | | |

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|---|---|---|---|

FACSIMILIE OF PS Form 3877

# Mail Code 61-53

| IDEM Staff | CDENNY 4/21/2011<br>Nucor Steel 107-29903-00038 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
|---|---|---|---|---|
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Judy 6836 South Ladoga Road Ladoga IN 47954 (Affected Party) | | | | | | | | | |
| 2 | | Ms. Magie Read P.O. Box 248 Battle Ground IN 47920 *(Affected Party)* | | | | | | | | | |
| 3 | | Montgomery County Commissioner 110 West South Boulvard Crawfordsville IN 47933 *(Local Official)* | | | | | | | | | |
| 4 | | Crawfordsville District Public Library 205 South Washington Street Crawfordsville IN 47933 *(Library)* | | | | | | | | | |
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