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: May 15, 2012

RE: Nucor Steel / 107-31415-00038

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 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, 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 and IC 13-15-6-1 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 of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar 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.

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
FNPER.dot12/03/07

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May 15, 2012

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

Re: 107-31415-00038
Significant Source Modification to:
Part 70 Source (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. An application to modify the Part 70 source was received on January 27, 2012. Pursuant to 326 IAC 2-7-10.5, the following modification is hereby approved for construction at the source:

(a) Replacement of existing burners on the 2 tunnel furnaces. Each tunnel furnace heat input will be reduced from 84 million British thermal units per hour (MMBtu/hr) to 50 MMBtu/hr.

(b) Relocation of the existing lime silo (SAS #1) used for the Castrip to keep the lime dry.

(1) One (1) pneumatic conveying of lime into the silo, SAS #1, with maximum loading rate of 25 tons per hour, controlled by a bin vent filter with air flow rate of 1,200 dry standard cubic foot per minute (dscfm) and outlet grain loading of 0.01 grain/dscf, exhausting to the Castrip building.

(2) One (1) lime silo screw auger, which conveys lime into an existing hopper at a maximum loading rate of 40 tons per hour, located inside a totally enclosed building. Particulate emissions collected from this totally enclosed building is vented back into the lime silo, SAS #1 to be controlled by the bin vent filter.

The truck dumping station (AU-1, constructed in 2002) will still be used for alloys, raw materials, and a backup for lime unloading.

(c) Increased oxygen production capacity at its plant, Linde Gases, LLC, which supplies oxygen to the steel mill located on Nucor's property. The increase in capacity will eliminate the number of trucks delivering liquid oxygen from outside sources to Linde plant to meet Nucor's oxygen demand. The increase in oxygen production will not result in an increase in Nucor's steel production because it is displacing oxygen that is currently supplied by trucks.

The increase in the oxygen production will require an increase in utilization from the existing Linde Boilers (No. 1 and No.2), including the construction of the following:

(1) One (1) new cooling tower with a capacity of 1,840 gallons per minute.

(d) Construction of a new pinch roll/flattener for pickling heavy gauge steel and high carbon steel products.

Existing equipment is not capable of handling heavy gauge steel.

(e) Addition of four (4) natural gas-fired burners with a maximum total heat input rate of 14 MMBtu/hr at Steel Technologies.

(f) Addition of a new quench/descale system at both casters for quality control. This will involve spraying the steel slab with water. An increase in the actual water circulation rate of 1,400 gallon per minute (gpm) will result due to the caster quench at the existing Meltshop Caster cooling tower but will not increase its permitted capacity of 10,000 gpm. The air flow rate from the existing caster steam vent will be increased by approximately 30,000 cubic feet per minute (cfm).

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Revocation of Permits [326 IAC 2-1.1-9] [316 IAC 2-7-10.5(i)
Pursuant to 326 IAC 2-1.1-9(5) and 326 IAC 2-7-10.5(i), this permit to construct shall expire if construction is not commenced within eighteen (18) months from the date of the issuance of this permit, or if during the construction of the source or emissions unit, work is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to issuance of the Part 70 Operating Permit Renewal to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 Operating Permit Renewal as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

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,

Chrystal A. Wagner, 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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SIGNIFICANT SOURCE MODIFICATION TO A PART 70 SOURCE
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.

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.

Significant Source Modification No. 107-31415-00038	
Issued by: Chrystal A. Wagner, Section Chief Permits Branch Office of Air Quality	Issuance Date: May 15, 2012

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D.18.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

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D.29.10 Meltshop EAF PSD BACT [326 IAC 2-2]
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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)]
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D.29.20 Compliance Assurance Monitoring (CAM) [40 CFR Part 64]

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D.30 FACILITY OPERATION CONDITIONS - ACTIVITIES – MELTSHOP

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D.31 FACILITY OPERATION CONDITIONS - Steel Technologies Operations

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D.31.2 PM and PM10/PM2.5 Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]
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D.31.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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D.31.6 Particulate Control
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D.31.8 Baghouse Parametric Monitoring
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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]
D.32.4 Nonroad Engines 326 IAC 12] [40 CFR 60, Subpart IIII] [326 IAC 20-82] [40 CFR 63, ... Subpart ZZZZ] [40 CFR 1068.30]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.32.5 Record Keeping Requirements
D.32.6 Reporting Requirements

D.33 FACILITY OPERATION CONDITIONS - Direct Reduced Iron (DRI) Handling System

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.33.1 PM and PM10 Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]
D.33.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.33.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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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 Facilities and Hydrochloric Acid Regeneration Plants [40 CFR Part 63, Subpart CCC]

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]

SECTION E.4 FACILITY OPERATION CONDITIONS - Emergency Generators

E.4.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E.4.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Enginer [40 CFR Part 63, Subpart ZZZZ - Emission Units ≤ 500 HP Capacity, constructed before June 12, 2006]
E.4.3 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Enginer [40 CFR Part 63, Subpart ZZZZ- Emission Units > 500 HP capacities constructed before December 19, 2002]

SECTION E.5 FACILITY OPERATION CONDITIONS - Boilers

E.5.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E.5.2 Applicability of National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters Requirements [40 CFR Part 63, Subpart DDDDD]
E.5.3 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5

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

Attachment B (NSPS, Subpart Dc - Small Industrial-Commercial-Institutional Steam Generating Units)
Attachment C (NSPS, Subpart AAa - Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels)
Attachment D (NESHAP, Subpart CCC - Steel Pickling-HCl Process Facilities and Hydrochloric Acid Regeneration Plants)
Attachment E (NESHAP, Subpart ZZZZ - Stationary Reciprocating Internal Combustion Engines)

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(14)] [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 Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act 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) Steel Technologies- Plant ID 107-00046, 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(14)]

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.

(k) Relocation of the existing lime silo (SAS #1) used for the Castrip to keep the lime dry:

(1) One (1) pneumatic conveying of lime into the silo, SAS #1, approved in 2012 for construction, with maximum loading rate of 25 tons per hour, controlled by a bin vent filter with air flow rate of 1,200 dry standard cubic foot per minute (dscfm) and outlet grain loading of 0.01 grain/dscf.

(2) One (1) lime silo screw auger, approved in 2012 for construction,which conveys lime into an existing hopper at a maximum loading rate of 40 tons per hour, located inside a totally enclosed building. Particulate emissions collected from this totally enclosed building is vented back into the lime silo, SAS#1 to be controlled by the bin vent filter.

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), approved in 2012 to increase oxygen production to displace oxygen currently supplied by outside sources, consisting of:

(1) One (1) natural gas-fired boiler identified as ID No. 1, constructed in 1989, with a heat input capacity of 7 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
[1]Meltshop Caster Contact	2	5,000	Annealing Non Contact	2	5,000
[1]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
(a) One (1) Cooling Tower, approved in 2012 for construction, with average capacity of 1,840 gallons per minute (gpm), located at LINDE GASES PLANT.					

[1] An increase in the actual water circulation rate of 1,400 gallon per minute (gpm) will result at the Meltshop Caster Cooling Tower but will not increase its permitted average capacity of 10,000 gpm.

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.

(4) One (1) pinch roll/flattener for pickling heavy gauge steel and high carbon steel products, approved in 2012 for construction.

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 Steel Technologies 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. Emissions are uncontrolled and exhausting outside the building. The burner is natural gas fired and uses 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 and approved in 2012 to replace burners from 84 MMBtu/hr to

50 MMBtu/hr. 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 and approved in 2012 to replace burners from 84 MMBtu/hr to 50 MMBtu/hr. 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. Approved in 2012 to add a quench/descale system at both Meltshop Continuous Casters. The air flow rate from the existing caster steam vent, stack S-11 will increased by approximately 30,000 cubic feet per minute (cfm).

(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 and approved in 2011 for replacement, 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 and approved in 2011 for replacement, with a heat input capacity of 5 MMBtu per hour, with uncontrolled emissions exhausting to stack S-12.

(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.

(10) Two (2) natural gas-fired Ladle Warmer Burners, identified as LWB #1 and LWB #2, approved in 2011 for construction, each with a maximum heat input capacity of 3 MMBtu/hr to warm ladles at the Melt Shop.

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

D.31 – Steel Technologies 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.

(e) One (1) Cleaner with a mist eliminator for the Leveler/Straightener, with four (4) natural gas-fired burners at maximum total heat input rate of 14 MMBtu/hr approved in 2012 for construction.

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.

D.33 - Direct Reduced Iron (DRI) Handling System

(a) Rail Unload Hopper, identified as HP1, approved in 2012 for construction, with a designed capacity of 400 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(b) Vibratory Screening Feeder, identified as VF1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(c) Rail Unload Fines Drag Conveyor, identified as DC1, approved in 2012 for construction, with a designed capacity of 10 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(d) Rail Unload Fines Bagging Station, identified as BS1, approved in 2012 for construction, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS1 Hopper, identified as HP2, with a designed capacity of 10 tons.

(2) BS1 Bagging Screw, identified as SC5, with a designed capacity of 15 tons per hour.

(e) Rail Unload Bucket Elevator, identified as BE1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(f) Two (2) Recirculating Conveyors, identified as SC1 and SC2, approved in 2012 for construction, with a designed capacity of 25 tons per hour each, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(g) Discharge Diverter, identified as DV1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(h) Hot Material Discharge Chute, identified as CH1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, exhausting uncontrolled to the atmosphere.

(i) Rail Unload Belt Conveyor, identified as BC1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(j) Discharge Diverter, identified as DV2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(k) Silo Loading Belt Conveyor, identified as BC2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(l) Iron Carbide Silo, identified as ICS1, constructed in 1994 and approved in 2012 for modification, with a designed capacity of 250 tons per hour and a designed storage capacity of 3585 tons, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(m) Vibratory Screening Feeder, identified as VF2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(n) Silo Fines Bagging Station, identified as BS2, approved in 2012 for construction, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS2 Hopper, identified as HP3, with a designed capacity of 4 tons.

(2) BS2 Bagging Screw, identified as SC6, with a designed capacity of 4 tons per hour.

(o) Silo Bucket Elevator, identified as BE2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(p) Two (2) Recirculating Conveyors, identified as SC3 and SC4, approved in 2012 for construction, with a designed capacity of 25 tons per hour each, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(q) Discharge Diverter, identified as DV3, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(r) Hot Material Discharge Chute, identified as CH2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, exhausting uncontrolled to the atmosphere.

(s) Silo Unloading Belt Conveyor, identified as BC3, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(t) Day Bin, identified as DB1, approved in 2012 for construction, with a designed capacity of 250 tons per hour and a designed storage capacity of 200 tons, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(u) Weigh Belt Feeder, identified as WB1, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(v) South Scrap Bay Belt Conveyor, identified as BC4, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(w) South Furnace Belt Conveyor, identified as BC10, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(x) Weigh Belt Feeder, identified as WB2, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(y) North Scrap Bay Belt Conveyor, identified as BC5, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(z) Belt Conveyor, identified as BC7, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(aa) North Furnace Belt Conveyor, identified as BC9, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

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) Lime Silo (#1 SEAF).

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

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

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

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

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

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

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

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

(14) 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, approved in 2010 for construction.
with an average capacity of 900 gallons per minute (gpm), located at LINDE GASES PLANT.

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 Steel Technologies 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.

INSIGNIFICANT ACTIVITIES

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

(1) Carbon dioxide (CO_2) injection of storm water runoff for control of pH.

(2) Application of CO_2 gas for quality control at the Castrip casting cassette.

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, T107-30293-00038 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(12)] [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)(8) 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 T107-30293-00038 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) or (c), 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), or (c. 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) and (c)(1).

(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)][40 CFR 64][326 IAC 3-8]

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.

(b) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(c) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

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 [40 CFR 64][326 IAC 3-8] [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) 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:

(1) 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.

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

(i) initial inspection and evaluation;

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

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

(3) 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:

(i) monitoring results;

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

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

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

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

(b) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action

(such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(c) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(d) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(e) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(f) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(g) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(h) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(i) CAM recordkeeping requirements:

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit

contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

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. Support information includes the following:

(1) All calibration and maintenance records.

(2) All original strip chart recordings for continuous monitoring instrumentation.
(3 Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following:

(1) The date, place, as defined in this permit, and time of sampling or measurements.
(2) The dates analyses were performed.
(3) The company or entity that performed the analyses.
(4) The analytical techniques or methods used.
(5) The results of such analyses.
(6) The operating conditions as existing at the time of sampling or measurement.

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 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) 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(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo**)** and/or 326 IAC 2-3-1(jj)) 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(pp)(2)(A)(iii**)** and/or 326 IAC 2-3-1 (kk)(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 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) 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(dd) and/or 326 IAC 2-3-1(y)) 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~~ pp) and/or 326 IAC 2-3-1(kk)), 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 [40 CFR 64][326 IAC 3-8] [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. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. 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.

CAM Only - On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(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 (oo) and/or 326 IAC 2-3-1(jj)) 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 (ww) and/or 326 IAC 2-3-1 (pp), 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(14)]:

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 is required for the vacuum degasser and its associated control device, a flare. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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]

Within five (5) years after the most recent valid compliance demonstration, the Permittee shall conduct carbon monoxide (CO) testing on the enclosed flare stack 500 used in conjunction with the vacuum degasser to demonstrate compliance with the emission limitations in Conditions D.1.1(b) and D.1.3(d), utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (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 [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.7 Flare Operating Parameters [40 CFR Part 64] [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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition

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.

(k) Relocation of the existing lime silo (SAS #1) used for the Castrip to keep the lime dry:

(1) One (1) pneumatic conveying of lime into the silo, SAS #1, approved in 2012 for construction, with maximum loading rate of 25 tons per hour, controlled by a bin vent filter with air flow rate of 1,200 dry standard cubic foot per minute (dscfm) and outlet grain loading of 0.01 grain/dscf.

(2) One (1) lime silo screw auger, approved in 2012 for construction,which conveys lime into an existing hopper at a maximum loading rate of 40 tons per hour, located inside a totally enclosed building. Particulate emissions collected from this totally enclosed building is vented back into the lime silo, SAS #1 to be controlled by the bin vent filter.

(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 (SO2) 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 PM10 and PM2.5 PSD Minor Limits [326 IAC 2-2

In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the PM10 and PM2.5 emissions from the Screw Auger for Lime Silo, SAS #1 shall each be limited to 0.6 pound per hour. Compliance with these limits shall keep the PM10 and PM2.5 emissions from emission units permitted in SSM 107-31415 below 15 tons per year and 10 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.

D.3.10 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) 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 equations:

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

(b) Pursuant to 326 IAC 6-3-2, the particulate emissions from the following emission units shall be limited as follows:

Emission Units/Process ID	Process Weight Rate (ton/hour)	Particulate Emission Limits (pound/hour)
Lime Pneumatic Conveying into Silo, SAS #1	25	35.43
Lime Silo Screw Auger to Existing Castrip Conveyor #1	40	42.53

The particulate emission limits in the above table shall be calculated using the following equations:

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

Compliance Determination Requirements

D.3.11 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Within sixty (60) days after achieving maximum production rate but no later than one hundred eighty (180) days after initial startup of the Screw Auger for the Lime Silo SAS #1, permitted in SSM 107-31415-00038, the Permittee shall conduct performance test for PM10 and PM2.5 on the Lime Silo SAS #1 bin vent filter, controlling the Screw Auger to verify compliance with the PM10 and PM2.5 emission limits in Condition D.3.9, utilizing methods as approved by the Commissioner. These tests shall be repeated once every 5 years from the date of 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.3.12 Capture System

The building that is used to capture particulate emissions from the Lime Screw Auger Hopper shall be totally closed whenever the Lime Screw Auger Hopper is in operation.

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

D.3.13 Bin Vent Filter Parametric Monitoring

(a) The Permittee shall record the pressure drop across the Lime Silo, SAS #1 bin vent filter used in conjunction with the Screw Auger for Lime Silo SAS #1 at least once per day when the Screw Auger is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for this unit is a pressure drop between 1.0 and 11.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. 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.3.14 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) To document the compliance status with Condition D.3.2, the Permittee shall maintain records of all vendor guarantees for all combustion units listed in this section.

(b) To document the compliance status with Condition D.3.13, the Permittee shall maintain once per day records of the pressure drop across the Lime Silo, SAS #1 bin vent filter used in conjunction with the Screw Auger for Lime Silo SAS #1 during normal operation and the reason for the lack of pressure drop notation (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

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 [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan 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. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct PM and opacity compliance stack tests for the LMS-2 baghouse stack (S-20) to demonstrate compliance with the emission limitations in Conditions D.4.1(d) and D.4.1(f), utilizing methods as approved by the Commissioner.

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.

(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) 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.

(d) 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.

(e) All compliance stack tests shall be repeated at least once every 2.5 years from the date of a 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.4.9 Visible Emissions Notations [40 CFR 64]

(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 [40 CFR 64]

(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, the Permittee shall take reasonable response. The normal range for this unit is a pressure drop between 1.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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.

(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. 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. Whenever the fan amperes are more than 15% above or below the above-mentioned value for any one reading, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from 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 or replaced at least once annually.

D.4.11 Broken or Failed Bag Detection [40 CFR 64]

(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 the compliance status 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 the compliance status 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 the compliance status with Condition D.4.10(b), the Permittee shall maintain once per day records of the fan amperes during normal operation.

(d) To document the compliance status with Condition D.4.5(d), the Permittee shall maintain records of the amount of Fluorspar applied at the Castrip.

(e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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D.4.13 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.4.6 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)

(b) The Permittee shall submit performance test protocols and performance test reports required by Operation Condition D.4.8 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) Lime Silo (#1 SEAF).

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

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

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

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

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

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

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

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

(14) 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 130 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, PM10 and PM2.5 Emissions [326 IAC 2-2]

(a) The PM, PM10 and PM2.5 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)	PM2.5 Emissions Limit (lb/ton)
Replacement Crusher, TSP-6	2,671,800	0.00016	0.000072	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	0.000033 each drop point
Screening Process, TSP-8	2,000,000	0.00075	0.00026	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	0.000033 each drop point
Blend Plant Material handling Front-End Loader, BP-1	1,500,000	0.00026	0.00013	0.000048
Blend Plant Conveying Process (6 Drop Points)[2]	1,500,000 each drop point	0.00009 each drop point	0.000033 each drop point	0.000033 each drop point
Temporary Screening Plant - Screen, PS1	525,600	0.00075	0.00026	0.00026
Temporary Screening Conveying Process (**7** Drop Points)[3]	525,600 each drop point	0.00009 each drop point	0.000033 each drop point	0.000033 each drop point
Temporary Screening Plant Front End Loader	**525,600**	**0.00026**	**0.00013**	0.000048
Replacement Screen, TSP-2	2,000,000	0.00075	0.00026	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	0.000033 each drop point

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] Eight Drop Points:
#1 Front end loader to grizzly feed hopper
#2 Grizzly feed hopper to Conveyor #1
#3 Conveyor #1 to Screen, PS1
#4 Screen, PS1 to Conveyor #2
#5 Conveyor #2 to Conveyor #3
#6 Conveyor #3 to Pile #1

#7 Screen, PS1 to Conveyor ~~#3~~ #4
#8 Conveyor #4 to 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, PM10 and PM2.5 emissions to less than 25 tons/year for PM, less than 15 tons/year for PM10 and less than 10 tons/year for PM2.5, 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-Screen	60	46.3
Temporary Screening Plant - 7 Conveying Drop Points[3]	60 each drop point	46.3 each drop point
Temporary Screening Plant-Front End Loader	60	46.3
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] Eight Drop Points:
#1 Front end loader to grizzly feed hopper
#2 Grizzly feed hopper to Conveyor #1
#3 Conveyor #1 to Screen, PS1
#4 Screen, PS1 to Conveyor #2
#5 Conveyor #2 to Conveyor #3
#6 Conveyor #3 to Pile #1
#7 Screen, PS1 to Conveyor #4
#8 Conveyor #4 to 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 Nonroad Engines 326 IAC 12] [40 CFR 60, Subpart IIII] [326 IAC 20-82] [40 CFR 63, Subpart ZZZZ] [40 CFR 1068.30]

In order to render the requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable and to ensure that Generator, TSP-3 as described in item (s) of this SECTION D.7, description box is nonroad engine, as defined in 40 CFR 1068.30, the Permittee shall comply with the following:

(a) The diesel fired generator, TSP-3 with power rating of 130 Brake Horsepower (BHP) shall remain at a location for a period not to exceed twelve (12) consecutive months.

(b) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with this condition shall render the requirements of 40 CFR 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) not applicable to this generator.

D.7.7 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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 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.7.9 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.7.10 Testing Requirements [326 IAC 2-1.1-11]

Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct PM and PM10 testing on the baghouse used in conjunction with the Coil and Scrap Cutting operation (CC-1), to demonstrate compliance with the 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

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.7.11 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.7.12 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.13 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, the Permittee shall take reasonable response steps. The normal range for this unit is a pressure drop between 1.0 and 11.0 inches of water unless a different upper-bound or lower-bound value for this range is determined 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.7.14 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.7.12 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.7.13, 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) The Permittee shall maintain records of the dates and locations of installation and removal of diesel fired generator, TSP-3.

(e) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

D.7.15 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), approved in 2012 to increase oxygen production to displace oxygen currently supplied by outside sources, consisting of:

(1) One (1) natural gas-fired boiler identified as ID No. 1, constructed in 1989, with a heat input capacity of 7 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 7.0 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 7.0 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 7.0 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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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
[1]Meltshop Caster Contact	2	5,000	Annealing Non Contact	2	5,000
[1]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

(a) One (1) Cooling Tower, approved in 2012 for construction, with average capacity of 1,840 gallons per minute (gpm), located at LINDE GASES PLANT.

INSIGNIFICANT ACTIVITIES – COOLING TOWERS

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

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

[1] An increase in the actual water circulation rate of 1,400 gallon per minute (gpm) will result at the Meltshop Caster Cooling Tower due to the caster quench but will not increase its permitted average capacity of 10,000 gpm.

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) To document the compliance status with Condition D.12.1, the Permittee shall maintain records of the Method 9 visible emission readings.

(b) To document the compliance status with Condition D.12.5, the Permittee shall maintain records of the once per day visible emission notations from the clean shred plant and scrap cutting and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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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) To socument the compliance ststus with Condition D.13.1(b), the Permittee shall maintain records of the hours of operation of each emergency generator.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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 Steel Technologies 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.

(4) One (1) pinch roll/flattener for pickling heavy gauge steel and high carbon steel products, approved in 2012 for construction.

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(12)]

A Preventive Maintenance Plan is required for Pickle Lines 1 and 2 (PL1 and PL2) and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct the following compliance stack testing for the PL1 scrubber used in conjunction with the Purdue Pickle Line No. 1 to demonstrate compliance with Condition D.15.1(a):

(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) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct the following compliance stack testing for the PL2 scrubber controlling the Purdue Pickle Line No. 2 to demonstrate compliance with Condition D.15.1(a):

(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 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(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.

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

D.15.6 Scrubber Failure Detection [40 CFR 64]

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.15.7 Scubbers Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop, scrubber recirculating water flow rate and fresh water make up flow into PL1 scrubber used in conjunction with Pickle Line 1; and pressure drop, and fresh water make up flow into PL2 scrubber used in conjunction with Pickle Line 2 at least once per day when each pickle line is in operation. When for any one reading each parametric range or the minimum operating parameter for the PL1 scrubber and PL2 scrubber are outside each normal range in the following table until each scrubber operating parameter and pressure drop range are re-established during the latest compliance stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit

Scrubber ID	Pressure Drop Range across the Scrubber (inches)	Minimum Flow Rate of Scrubber Recirculating Water Flow (gallons/minute)	Fresh Water Make up Flow into Scrubber (gallon/minute)
Pickle Line 1 Scrubber	2.8 - 4.8	110	1.0
Pickle Line 2 Scrubber	4.9 - 7.8	N/A	2.5

The instruments used for determining the pressure drop across the scrubbers, flow rate of the scrubbers recirculating water and flow rate of the fresh make up water into the scrubbers 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.15.8 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) To document the compliance status with Condition D.15.7, the Permittee shall maintain once per day records of the pressure drop, scrubber recirculating water flow rate and fresh water make up flow into PL1 scrubber used in conjunction with Pickle Line 1; and pressure drop, and fresh water make up flow into PL2 scrubber used in conjunction with Pickle Line 2 during normal operation and the reason for the lack of operating parameter notations (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

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 STEEL TECHNOLOGIES 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 Steel Technologies 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 Steel Technologies 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 Steel Technologies 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(12)]

A Preventive Maintenance Plan is required for these facilities and control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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.

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

D.16.8 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Cold Reversing Mill, EU-09, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 to 10.0 inches of water until a range is 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 condition. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.16.9 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

(a) To document the compliance status with Condition D.16.1, the Permittee shall maintain monthly records of steel production.

(b) To document the compliance status with Condition D.16.8, the Permittee shall maintain once per day pressure drop across the Mist Eliminator used in conjunction with the Cold Reversing Mill, EU-09 during normal operation and the reason for lack of pressure drop notation (e.g the process did not operate)

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.16.9 Reporting Requirements

A quarterly report of the information needed to document compliance with Condition D.16.1(a) 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.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(12)]

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.

D.17.5 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Reversing and Tempering (R/T) Mill, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 and 10.0 inches of water until a range is 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 condition. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.17.6 Record Keeping Requirements

(a) To document the compliance status with Condition D.17.1(a), the Permittee shall maintain monthly records of the amount of steel processed in the R/T Mill.

(b) To document the compliance status with Condition D.17.5, the Permittee shall maintain once per day pressure drop across the Mist Eliminator used in conjunction with the Reversing and Tempering (R/T) Mill during normal operation and the reason for lack of pressure drop notation (e.g the process did not operate)

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.17.7 Reporting Requirements

A quarterly report of the information needed to document compliance with Condition D.17.1(a) 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.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(12)]

A Preventive Maintenance Plan is required for the Galvanizing Line Alkaline Cleaning Station and the mist eliminators. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.19.6 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.19.3 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.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(12)]

A Preventive Maintenance Plan is required for the acid regeneration system (EU-04) and its control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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) Within 2.5 years after the most recent valid compliance demonstration, 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.

(b) Any stack which has multiple processes which exhaust to the same stack shall operate all of the processes simultaneously in 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.

(c) These tests shall be repeated at least once every 2.5 years from the date of a valid compliance demonstration.

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 until a minimum flow rate is established during the latest stack test, an alarm will notify Permittee and the Permittee shall take reasonable steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A 3-hour average flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps 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 response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps or failure to correct the malfunction within a reasonable time shall be considered a deviation from this permit.

(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 or replaced 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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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. Emissions are uncontrolled and exhausting outside the building. 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(12)]

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°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 [40 CFR Part 64] [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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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 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).

(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 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.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 and approved in 2012 to replace burners from 84 MMBtu/hr to 50 MMBtu/hr. 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 and approved in 2012 to replace burners from 84 MMBtu/hr to 50 MMBtu/hr. 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 140 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) To document the compliance status with Condition D.26.1(a), the Permittee shall maintain 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), monthly.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.26.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.26.1 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.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(12)]

A Preventive Maintenance Plan is required for the material transfer station (MT #1) and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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

(2) Each or any combination of the Meltshop EAFs and AOD can independently produce

SECTION D.29 FACILITY OPERATION CONDITIONS

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. Approved in 2012 to add a quench/descale system at both Meltshop Continuous Casters. The air flow rate from the existing caster steam vent, stack S-11 will increased by approximately 30,000 cubic feet per minute (cfm).

(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,

SECTION D.29 FACILITY OPERATION CONDITIONS

(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

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propane as a backup fuel, with uncontrolled emissions exhausting to stacks 7 and 8.

(2a) Ladle Dryer, identified as LDS #1, constructed in 1989 and approved in 2011 for replacement, 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 and approved in 2011 for replacement, with a heat input capacity of 5 MMBtu per hour, 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.

10) Two (2) natural gas-fired Ladle Warmer Burners, identified as LWB #1 and LWB #2, approved in 2011 for construction, each with a maximum heat input capacity of 3 MMBtu/hr to warm ladles at the Melt Shop.

(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.

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(12)]

A Preventive Maintenance Plan 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). Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct compliance stack tests 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) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct opacity compliance tests on the following emission points to demonstrate compliance with Conditions D.29.1 and D.29.3, 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). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

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 (1) through (7) 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 (1) through (4) 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, until a minimum flow rate is established during the latest stack test, an alarm will notify Permittee and the Permittee shall take reasonable steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A 3-hour average flow rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps 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 by the Commissioner	Use of a certified visible emission observer.	Periodic maintenance of BLDS.	Trained personnel perform inspections and 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	Daily visual observations of opacity are recorded	Record of alarm instances and maintenance activity.	Results of inspections and maintenance activities performed are

EAFs/AODs and LMFs				
PARAMETER	INDICATOR NO. 1	INDICATOR NO. 2	INDICATOR NO. 3	INDICATOR NO. 4
	Commissioner	on V.E. Form.		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) To document the compliance status with Condition D.29.1(a)(2), 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) To document the compliance status with Condition D.29.1(a)(3), (4) and (5), The Permittee shall maintain records of the readings of the SO_2, NO_x and CO CEMS in pounds per hour.

(d) To document the compliance status with Condition D.29.15(a), the Permittee shall maintain records of the Method 9 visible emission readings.

(e) To document the compliance status 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 the compliance status 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 the compliance status 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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition

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 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).

(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)]

Steel Technologies 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.

(e) One (1) Cleaner with a mist eliminator for the Leveler/Straightener, with four (4) natural gas-fired burners at maximum total heat input rate of 14 MMBtu/hr approved in 2012 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.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(12)]

A Preventive Maintenance Plan is required for the cleaner/degreaser and leveler/straightener and their control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

Compliance Determination Requirements

D.31.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Within five (5) years after the most recent valid compliance demonstration, the Permittee shall shall perform PM and PM105 testing on baghouse AC-01 associated with the Leveler/ Straightener to demonstrate compliance with the limits in Condition D.31.2, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every 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. 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps 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, the Permittee shall take reasonable response. The normal range for this unit is a pressure drop between 1.0 and 11.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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.

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 the compliance status 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 the compliance status 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

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 or by Whitesville Mill Service:

(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.

D.32.4 Nonroad Engines 326 IAC 12] [40 CFR 60, Subpart IIII] [326 IAC 20-82] [40 CFR 63, Subpart ZZZZ] [40 CFR 1068.30]

In order to render the requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII), which are incorporated by reference as 326 IAC 12, and the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which are incorporated by reference as 326 IAC 20-82, not applicable and to ensure that Generator, BSBP-5 as described in item (e) of this SECTION D.32, description box is nonroad engine, as defined in 40 CFR 1068.30, the Permittee shall comply with the following:

(a) The diesel fired generator, BSBP-5 with power rating of 425 Brake Horsepower (BHP) shall remain at a location for a period not to exceed twelve (12) consecutive months.

(b) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation.

Compliance with this condition shall render the requirements of 40 CFR 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and 40 CFR 63, Subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for

Stationary Reciprocating Internal Combustion Engines) not applicable to this generator.

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

D.32.5 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) The Permittee shall maintain records of the dates and locations of installation and removal of diesel fired generator, BSBP-5.

(d) Section C - General Record Keeping Requirements.contains the Permittee's obligations with regard to the records required by this condition.

D.32.6 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 D.33 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC2-7-5(15)]:

Direct Reduced Iron (DRI) handling system

(a) Rail Unload Hopper, identified as HP1, approved in 2012 for construction, with a designed capacity of 400 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(b) Vibratory Screening Feeder, identified as VF1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(c) Rail Unload Fines Drag Conveyor, identified as DC1, approved in 2012 for construction, with a designed capacity of 10 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(d) Rail Unload Fines Bagging Station, identified as BS1, approved in 2012 for construction, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS1 Hopper, identified as HP2, with a designed capacity of 10 tons.

(2) BS1 Bagging Screw, identified as SC5, with a designed capacity of 15 tons per hour.

(e) Rail Unload Bucket Elevator, identified as BE1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(f) Two (2) Recirculating Conveyors, identified as SC1 and SC2, approved in 2012 for construction, with a designed capacity of 25 tons per hour each, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(g) Discharge Diverter, identified as DV1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(h) Hot Material Discharge Chute, identified as CH1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, exhausting uncontrolled to the atmosphere.

(i) Rail Unload Belt Conveyor, identified as BC1, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(j) Discharge Diverter, identified as DV2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(k) Silo Loading Belt Conveyor, identified as BC2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(l) Iron Carbide Silo, identified as ICS1, constructed in 1994 and approved in 2012 for modification, with a designed capacity of 250 tons per hour and a designed storage capacity of 3585 tons, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

SECTION D.33 FACILITY OPERATION CONDITIONS

(m) Vibratory Screening Feeder, identified as VF2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(n) Silo Fines Bagging Station, identified as BS2, approved in 2012 for construction, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS2 Hopper, identified as HP3, with a designed capacity of 4 tons.

(2) BS2 Bagging Screw, identified as SC6, with a designed capacity of 4 tons per hour.

(o) Silo Bucket Elevator, identified as BE2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(p) Two (2) Recirculating Conveyors, identified as SC3 and SC4, approved in 2012 for construction, with a designed capacity of 25 tons per hour each, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(q) Discharge Diverter, identified as DV3, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(r) Hot Material Discharge Chute, identified as CH2, approved in 2012 for construction, with a designed capacity of 250 tons per hour, exhausting uncontrolled to the atmosphere.

(s) Silo Unloading Belt Conveyor, identified as BC3, approved in 2012 for construction, with a designed capacity of 250 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(t) Day Bin, identified as DB1, approved in 2012 for construction, with a designed capacity of 250 tons per hour and a designed storage capacity of 200 tons, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(u) Weigh Belt Feeder, identified as WB1, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(v) South Scrap Bay Belt Conveyor, identified as BC4, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(w) South Furnace Belt Conveyor, identified as BC10, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(x) Weigh Belt Feeder, identified as WB2, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(y) North Scrap Bay Belt Conveyor, identified as BC5, approved in 2012 for construction, with a designed capacity of 225 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(z) Belt Conveyor, identified as BC7, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as

SECTION D.33 FACILITY OPERATION CONDITIONS

control, exhausting to stack BH1 or BH2 accordingly.

(aa) North Furnace Belt Conveyor, identified as BC9, constructed in 2005 and approved in 2012 for modification, with a designed capacity of 265 tons per hour, using Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(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.33.1 PM and PM_{10} Emissions Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The PM emission rate from each DRI handling point other than the screening processes, when handling direct reduced iron, shall not exceed 0.0024 lb/ton.

(b) The PM emission rate from each screening process shall not exceed 0.025 lb/ton.

(c) The PM_{10} emission rate from each DRI handling point other than the screening processes, when handling direct reduced iron, shall not exceed 0.0011 lb/ton.

(d) The PM_{10} emission rate from each screening process shall not exceed 0.0087 lb/ton.

(e) The amount of direct reduced iron processed by the Direct Reduced Iron (DRI) Handling System shall be limited to 800,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable to the DRI handling system.

D.33.2 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	Process Weight Rate (tons/hour)	Particulate Emissions Limit (pounds/hour)
Rail Unload Hopper (HP1)	400	66.3
Vibratory Screening Feeder (VF1)	250	61.0
Rail Unload Bucket Elevator (BE1)	250	61.0
Discharge Diverter (DV1)	250	61.0
Hot Material Discharge Chute (CH1)	250	61.0
Rail Unload Belt Conveyor (BC1)	250	61.0
Discharge Diverter (DV2)	250	61.0
Silo Loading Belt Conveyor (BC2)	250	61.0
Iron Carbide Silo (ICS1)	250	61.0
Vibratory Screening Feeder (VF2)	250	61.0
Silo Bucket Elevator (BE2)	250	61.0
Discharge Diverter (DV3)	250	61.0
Hot Material Discharge Chute (CH2)	250	61.0
Silo Unloading Belt Conveyor (BC3)	250	61.0
Day Bin (DB1)	250	61.0
South Furnace Belt Conveyor (BC10)	265	61.6
Belt Conveyor (BC7)	265	61.6
North Furnace Belt Conveyor (BC9)	265	61.6

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, 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.33.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for the DRI handling system and its control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition

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

D.33.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.33.1(e), the Permittee shall maintain records of the throughput of the Direct Reduced Iron (DRI) Handling System.

(b) Section C - General Record Keeping Requirements contains the Permittee’s obligations with regard to the records required by this condition.

D.33.5 Reporting Requirements

A quarterly report of the throughput of the Direct Reduced Iron (DRI) Handling System to document the compliance status with Condition D.33.1 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 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 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 – STEEL TECHNOLOGIES BOILER

(z1) One (1) natural gas-fired Steel Technologies 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 – 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.

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 – 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

SECTION E.3 FACILITY OPERATION CONDITIONS

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– 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.

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)

SECTION E.4 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.

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

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

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

(iv) 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.)

E.4.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]

The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1,for the Cold Mill generator, identified as GEN #3 except when otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

E.4.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ - Emission Units ≤ 500 HP Capacity, constructed before June 12, 2006]

Pursuant to 40 CFR Part 63, Subpart ZZZZ, the Cold Mill generator, identified as GEN #3 with capacity ≤ 500 HP, constructed before June 12, 2006 shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ no later than May 3, 2013:

(1) 40 CFR § 63.6580
(2) 40 CFR § 63.6585
(3) 40 CFR § 63.6590
(4) 40 CFR § 63.6602
(5) 40 CFR § 63.6625(e)(2), (f), (h), (i),
(6) 40 CFR § 63.6605(a), (b)
(7) 40 CFR § 63.6640(a), (b), (e), (f)
(8) 40 CFR § 63.6655(a), (b), (d), (e), (f)
(9) Table 2c to Subpart ZZZZ of Part 63, footnote 1 of Table 2c and footnote 2 of Table 2c
(10) Table 6 to Subpart ZZZZ of Part 63
(11) Table 8 to Subpart ZZZZ of Part 63

E.4.3 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Enginer [40 CFR Part 63, Subpart ZZZZ- Emission Units > 500 HP capacities constructed before December 19, 2002]

Pursuant to 40 CFR Part 63, Subpart ZZZZ, the following existing stationary engines with > 500 HP capacities constructed before December 19, 2002 shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ:

Emergency Generators/ID	Capacity (HP)
Hot Mill NC Cooling Tower generator, identified as GEN #1,	2,100
Galv Line Pot generator, identified as GEN #4	890
MS Cooling Tower Cold Well generator, identified as GEN #2	2,520

(1) 40 CFR § 63.6580
(2) 40 CFR § 63.6585
(3) 40 CFR § 63.6590(a)(1)(i), (b)(3)(iii)
(4) 40 CFR § 63.6640(f)(2)(i) through (iii)
(5) 40 CFR § 63.6675

SECTION E.5 FACILITY OPERATION CONDITIONS

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

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.

D.8 – LINDE GASES PLANT

(r) The LINDE Gases Plant is operated by LINDE Gases

(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.

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

(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 Steel Technologies 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.)

E.5.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.7565, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for Castrip Boiler ID No. 501, Linde Gases Boilers No. 1, No. 2 and No.3, Cold Mill Boiler, identified as CMB#1 and Steel Technologies Boiler as specified in Table 10 of 40 CFR 63, Subpart DDDDD in accordance with schedule in 40 CFR 63 Subpart DDDDD.

(b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

(c) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

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

E.5.2 Applicability of National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters Requirements [40 CFR Part 63, Subpart DDDDD]

(a) The provisions of 40 CFR Part 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters) apply to the affected source. A copy of this rule is available on the US EPA Air Toxics Website at http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

(b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition.

E.5.3 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12][326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart DDDDD, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than June 21, 2013.

(c) The significant permit modification application shall be submitted to:

IDEM Air Permits Administration
ATTN: Incoming Application
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, IN 46204-2251

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.: T107-30293-00038

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.: T107-30293-00038

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

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.: T107-30293-00038

☐ Natural Gas Only ☐ Alternate Fuel burned 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. 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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
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 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.: T107-30293-00038
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.: T107-30293-00038
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.: T107-30293-00038
Facility: Temporary Screening Plant -Screen, PS1 and Temporary Screening Conveying Process (8 drop points, including the front end loader)[3]
Parameter: Throughput
Limits:

Unit Description	Throughput Limit (tons/yr)
Temporary Screening Plant -Screen, PS1	525,600
Temporary Screening Conveying Process (7 drop points)[3]	525,600 each drop point
Temporary Screening Plant- Front End Loader	**525,600**

QUARTER:_____ YEAR:_____

Month	Column 1 Throughput This Month			Column 2 Throughput 11 Months			Column 1+2 Throughput 12 Months Total		
	Temporary Screening Plant-Screen, PS1	Temporary Screening Conveying Process (7 Drop Points)[3]	Front End Loader	Temporary Screening Plant	Temporary Screening Conveying Process (7 Drop Points)[3]	Front End Loader	Temporary Screening Plant	Temporary Screening Conveying Process (7 Drop Points)[3]	**Front** End Loader
Month 1									
Month 2									
Month 3									

[3] Eight Drop Points:
#1 Front end loader to grizzly feed hopper
#2 Grizzly feed hopper to Conveyor #1
#3 Conveyor #1 to Screen, PS1
#4 Screen, PS1 to Conveyor #2
#5 Conveyor #2 to Conveyor #3
#6 Conveyor #3 to Pile #1
#7 Screen, PS1 to Conveyor #4
#8 Conveyor #4 to 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.: T107-30293-00038
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.: T107-30293-00038
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 Hours Operated This Month	Column 2 Hours Operated 11 Months	Column 1+2 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 Quarterly Report

Source Name: Nucor Steel
Source Address: 4537 South Nucor Road, Crawfordsville, Indiana 47933
Part 70 Permit No.: T107-30293-00038
Facility: DRI handling system
Parameter: Direct reduced iron (DRI) throughput
Limit: Less than 800,000 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 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.: T107-30293-00038

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. 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 47933

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 have 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 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 have 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 have 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.

Attachment B

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).
(e) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)
(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.
(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.
(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_Xstandards under this subpart and the SO_2standards under subpart J or subpart Ja of this part, as applicable.
(i) Temporary boilers are not subject to this subpart.

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.
Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.
Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.
Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.
Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.
Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).
Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.
Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see §60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see §60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see §60.17).
Dry flue gas desulfurization technology means a SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.
Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.
Emerging technology means any SO_2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).
Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.
Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.
Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.
Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).
Heat transfer medium means any material that is used to transfer heat from one point to another point.
Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.
Natural gas means:
(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or
(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).
Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.
Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.
Potential sulfur dioxide emission rate means the theoretical SO_2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.
Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.
Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).
Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.
Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.
Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO_2emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:
(1) The equipment is attached to a foundation.
(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.
Wet flue gas desulfurization technology means an SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.
Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.
Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.
[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.42c Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the

owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.
(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:
(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:
(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2emission rate (80 percent reduction); nor
(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2emissions limit or the 90 percent SO_2reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.
(2) Combusts only coal and that uses an emerging technology for the control of SO_2emissions shall neither:
(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 50 percent (0.50) of the potential SO_2emission rate (50 percent reduction); nor
(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.
(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).
(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;
(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.
(3) Affected facilities located in a noncontinental area; or
(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.
d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.
(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal,

oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of the following:
(1) The percent of potential SO_2emission rate or numerical SO_2emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that
(i) Combusts coal in combination with any other fuel;
(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and
(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and
(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:
E_s= SO_2emission limit, expressed in ng/J or lb/MMBtu heat input;
K_a= 520 ng/J (1.2 lb/MMBtu);
K_b= 260 ng/J (0.60 lb/MMBtu);
K_c= 215 ng/J (0.50 lb/MMBtu);
H_a= Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];
H_b= Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and
H_c= Heat input from the combustion of oil, in J (MMBtu).
(f) Reduction in the potential SO_2emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:
(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2emission rate; and
(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.
(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.
(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.
(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).
(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).
(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).
(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).
(i) The SO_2emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.
(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.
[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or

combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:
(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.
(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.
(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:
(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or
(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.
(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).
(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.
(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section
(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:
(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and
(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.
(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.
(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.
(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO_2emission limits under §60.42c is based on the average percent reduction and the average SO_2emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2emission rate are calculated to show compliance with the standard.
(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2emission rate (E_{ho}) and the 30-day average SO_2emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate $E_{ao}$when using daily fuel sampling or Method 6B of appendix A of this part.
(e) If coal, oil, or coal and oil are combusted with other fuels:
(1) An adjusted E_{ho}(E_{ho}o) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}(E_{ao}o). The E_{ho}o is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:
E_{ho}o = Adjusted E_{ho}, ng/J (lb/MMBtu);
E_{ho}= Hourly SO_2emission rate, ng/J (lb/MMBtu);
E_w= SO_2concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_w$if the owner or operator elects to assume E_w= 0.
X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.
(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters $E_w$or $X_k$if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.
(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO_2emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:
$\%P_s$= Potential SO_2emission rate, in percent;
$\%R_g$= SO_2removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and
$\%R_f$= SO_2removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.
(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:
(i) To compute the $\%P_s$, an adjusted $\%R_g$($\%R_g$o) is computed from E_{ao}o from paragraph (e)(1) of this section and an adjusted average SO_2inlet rate (E_{ai}o) using the following formula:

$$\%R_g o = 100\left(1 - \frac{E_{ao}^{\circ}}{E_{ai}^{\circ}}\right)$$

Where:
$\%R_g$o = Adjusted $\%R_g$, in percent;
E_{ao}o = Adjusted E_{ao}, ng/J (lb/MMBtu); and
E_{ai}o = Adjusted average SO_2inlet rate, ng/J (lb/MMBtu).
(ii) To compute E_{ai}o, an adjusted hourly SO_2inlet rate (E_{hi}o) is used. The E_{hi}o is computed using the following formula:

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:
E_{hi}o = Adjusted E_{hi}, ng/J (lb/MMBtu);
E_{hi}= Hourly SO_2inlet rate, ng/J (lb/MMBtu);
E_w= SO_2concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_w$if the owner or operator elects to assume E_w= 0; and
X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.
(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).
(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.
(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.
(j) The owner or operator of an affected facility shall use all valid SO_2emissions data in calculating $\%P_s$and E_{ho}under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data

collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$or E_{ho}pursuant to paragraphs (d), (e), or (f) of this section, as applicable.
[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.
(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.
(2) Method 3A or 3B of appendix A–2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A–3 of this part or 17 of appendix A–6 of this part.
(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:
(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.
(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.
(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.
(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.
(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).
(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.
(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:
(i) The O_2or CO_2measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and
(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.
(8) Method 9 of appendix A–4 of this part shall be used for determining the opacity of stack emissions.
(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.
(c) In place of PM testing with Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.
(2) Notify the Administrator 1 month before stopping use of the system.
(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.
(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.
(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.
(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.
(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.
(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.
(ii) [Reserved]
(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.
(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.
(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.
(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2(or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.
(i) For PM, Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall be used; and
(ii) For O2 (or CO_2), Method 3A or 3B of appendix A–2 of this part, as applicable shall be used.
(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.
(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.
(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in §60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.
(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

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§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2concentrations and either O_2or CO_2concentrations at the outlet of the SO_2control device (or the outlet of the steam generating unit if no SO_2control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO_2concentrations and either O_2or CO_2concentrations at both the inlet and outlet of the SO_2control device.
(b) The 1-hour average SO_2emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO_2emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO_2emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.
(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.
(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.
(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.
(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO_2CEMS at the inlet to the SO_2control device shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted, and the span value of the SO_2CEMS at the outlet from the SO_2control device shall be 50 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted.
(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO_2CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted.
(d) As an alternative to operating a CEMS at the inlet to the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.
(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2input rate.
(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.
(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2at the inlet or outlet of the SO_2control system. An initial stratification test is required to verify the adequacy of the

Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable $SO_2$and CO_2measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).
(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2standards based on fuel supplier certification, as described under §60.48c(f), as applicable.
(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A–4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.
(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.
(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;
(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;
(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.
(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.45c(a)(8).
(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.
(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.
(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.
(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).
(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
(e) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.
(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.
(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).
(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).
(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.
(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.
(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.
(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.
(f) An owner or operator of an affected facility that is subject to an opacity standard in §60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.
(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section §60.48Da of this part.
(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section §60.48Da of this part.
(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under §60.48c(c).
(g) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority is not required to operate a COMS. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

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§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:
(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.
(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.
(4) Notification if an emerging technology will be used for controlling SO_2emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.
(b) The owner or operator of each affected facility subject to the SO_2emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.
(c) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.
(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.
(i) Dates and time intervals of all opacity observation periods;
(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
(iii) Copies of all visible emission observer opacity field data sheets;
(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.
(i) Dates and time intervals of all visible emissions observation periods;
(ii) Name and affiliation for each visible emission observer participating in the performance test;
(iii) Copies of all visible emission observer opacity field data sheets; and
(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator
(d) The owner or operator of each affected facility subject to the SO_2emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.
(e) The owner or operator of each affected facility subject to the SO_2emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.
(1) Calendar dates covered in the reporting period.
(2) Each 30-day average SO_2emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.
(3) Each 30-day average percent of potential SO_2emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.
(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.
(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.
(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.
(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.
(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.
(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.
(f) Fuel supplier certification shall include the following information:
(1) For distillate oil:
(i) The name of the oil supplier;
(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and
(iii) The sulfur content or maximum sulfur content of the oil.
(2) For residual oil:
(i) The name of the oil supplier;
(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;
(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and
(iv) The method used to determine the sulfur content of the oil.
(3) For coal:
(i) The name of the coal supplier;
(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);
(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and
(iv) The methods used to determine the properties of the coal.
(4) For other fuels:
(i) The name of the supplier of the fuel;
(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and
(iii) The method used to determine the potential sulfur emissions rate of the fuel.
(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.
(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2standard, fuels not subject to an emissions standard

(excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO_2standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

ATTACHMENT C

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart AAa—Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983

Source: 49 FR 43845, Oct. 31, 1984, unless otherwise noted.

§ 60.270a Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems.

(b) The provisions of this subpart apply to each affected facility identified in paragraph (a) of this section that commences construction, modification, or reconstruction after August 17, 1983.

§ 60.271a Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

Argon-oxygen decarburization vessel (AOD vessel) means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.

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

Capture system means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an electric arc furnace or AOD vessel to the air pollution control device.

Charge means the addition of iron and steel scrap or other materials into the top of an electric arc furnace or the addition of molten steel or other materials into the top of an AOD vessel.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or AOD vessel.

Direct-shell evacuation control system (DEC system) means a system that maintains a negative pressure within the electric arc furnace above the slag or metal and ducts emissions to the control device.

Dust-handling system means equipment used to handle particulate matter collected by the control device for an electric arc furnace or AOD vessel subject to this subpart. For the purposes of this subpart, the dust-handling system shall consist of the control device dust hoppers, the dust-conveying equipment, any central dust storage equipment, the dust-treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.

Electric arc furnace (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. For the purposes of this subpart, an EAF shall consist of the furnace shell and roof and the transformer. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.

Heat cycle means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed or beginning when molten steel is charged to an empty AOD vessel and ending when the AOD vessel tap is completed.

Meltdown and refining period means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods and times when power to the EAF is off.

Melting means that phase of steel production cycle during which the iron and steel scrap is heated to the molten state.

Negative-pressure fabric filter means a fabric filter with the fans on the downstream side of the filter bags.
Positive-pressure fabric filter means a fabric filter with the fans on the upstream side of the filter bags.
Refining means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.
Shop means the building which houses one or more EAF's or AOD vessels.
Shop opacity means the arithmetic average of 24 observations of the opacity of emissions from the shop taken in accordance with Method 9 of appendix A of this part.
Tap means the pouring of molten steel from an EAF or AOD vessel.
Tapping period means the time period commencing at the moment an EAF begins to pour molten steel and ending either three minutes after steel ceases to flow from an EAF, or six minutes after steel begins to flow, whichever is longer.
[49 FR 43845, Oct. 31, 1984, as amended at 64 FR 10110, Mar. 2, 1999; 70 FR 8532, Feb. 22, 2005]

§ 60.272a Standard for particulate matter.
(a) On and after the date of which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an EAF or an AOD vessel any gases which:
(1) Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);
(2) Exit from a control device and exhibit 3 percent opacity or greater; and
(3) Exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.
(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater.

§ 60.273a Emission monitoring.
(a) Except as provided under paragraphs (b) and (c) of this section, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this subpart.
(b) No continuous monitoring system shall be required on any control device serving the dust-handling system.
(c) A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) is not required on any modular, multi-stack, negative-pressure or positive-pressure fabric filter if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer; or on any single-stack fabric filter if visible emissions from the control device are performed by a certified visible emission observer and the owner installs and continuously operates a bag leak detection system according to paragraph (e) of this section. Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in §60.272a(a).
(d) A furnace static pressure monitoring device is not required on any EAF equipped with a DEC system if observations of shop opacity are performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity

observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident.
(e) A bag leak detection system must be installed and continuously operated on all single-stack fabric filters if the owner or operator elects not to install and operate a continuous opacity monitoring system as provided for under paragraph (c) of this section. In addition, the owner or operator shall meet the visible emissions observation requirements in paragraph (c) of this section. The bag leak detection system must meet the specifications and requirements of paragraphs (e)(1) through (8) of this section.
(1) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.
(2) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.,* using a strip chart recorder or a data logger.)
(3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to paragraph (e)(4) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.
(4) For each bag leak detection system required by paragraph (e) of this section, the owner or operator shall develop and submit to the Administrator or delegated authority, for approval, a site-specific monitoring plan that addresses the items identified in paragraphs (i) through (v) of this paragraph (e)(4). For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA–454/R–98–015). The owner or operator 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:
(i) Installation of the bag leak detection system;
(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
(iii) Operation of the bag leak detection system including quality assurance procedures;
(iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and
(v) How the bag leak detection system output shall be recorded and stored.
(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 (if applicable).
(6) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided for in paragraphs (e)(6)(i) and (ii) of this section.
(i) 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 according to the procedures identified in the site-specific monitoring plan required under paragraphs (e)(4) of this section.
(ii) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under paragraph (c) of this section 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.
(7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor must be installed downstream of the baghouse and upstream of any wet scrubber.
(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
(f) For each bag leak detection system installed according to paragraph (e) of this section, the owner or operator shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under paragraph (g) of this section, the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following:

(1) 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;
(2) Sealing off defective bags or filter media;
(3) Replacing defective bags or filter media or otherwise repairing the control device;
(4) Sealing off a defective baghouse compartment;
(5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and
(6) Shutting down the process producing the particulate emissions.
(g) In approving the site-specific monitoring plan required in paragraph (e)(4) of this section, the Administrator or delegated authority may allow owners or operators more than 3 hours to alleviate specific conditions that cause an alarm if the owner or operator identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable.
[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6672, Feb. 14, 1989; 64 FR 10111, Mar. 2, 1999; 70 FR 8532, Feb. 22, 2005]

§ 60.274a Monitoring of operations.
(a) The owner or operator subject to the provisions of this subpart shall maintain records of the following information:
(1) All data obtained under paragraph (b) of this section; and
(2) All monthly operational status inspections performed under paragraph (c) of this section.
(b) Except as provided under paragraph (e) of this section, the owner or operator subject to the provisions of this subpart shall check and record on a once-per-shift basis the furnace static pressure (if DEC system is in use, and a furnace static pressure gauge is installed according to paragraph (f) of this section) and either: check and record the control system fan motor amperes and damper position on a once-per-shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Administrator may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 of appendix A of this part.
(c) When the owner or operator of an affected facility is required to demonstrate compliance with the standards under §60.272a(a)(3) and at any other time that the Administrator may require (under section 114 of the CAA, as amended) either: the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to paragraph (b) of this section. The owner or operator may petition the Administrator for reestablishment of these parameters whenever the owner or operator can demonstrate to the Administrator's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of §60.276a(c).
(d) Except as provided under paragraph (e) of this section, the owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (*i.e.* , pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.
(e) The owner or operator may petition the Administrator to approve any alternative to either the monitoring requirements specified in paragraph (b) of this section or the monthly operational status

inspections specified in paragraph (d) of this section if the alternative will provide a continuous record of operation of each emission capture system.
(f) Except as provided for under §60.273a(d), if emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ±5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.
(g) Except as provided for under §60.273a(d), when the owner or operator of an EAF controlled by a DEC is required to demonstrate compliance with the standard under §60.272a(a)(3), and at any other time the Administrator may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under paragraph (f) of this section. The owner or operator may petition the Administrator for reestablishment of the pressure whenever the owner or operator can demonstrate to the Administrator's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility.
(h) During any performance test required under §60.8, and for any report thereof required by §60.276a(f) of this subpart, or to determine compliance with §60.272a(a)(3) of this subpart, the owner or operator shall monitor the following information for all heats covered by the test:
(1) Charge weights and materials, and tap weights and materials;
(2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation control systems are used;
(3) Control device operation log; and
(4) Continuous opacity monitor or Method 9 data.
[49 FR 43845, Oct. 31, 1984, as amended at 64 FR 10111, Mar. 2, 1999; 65 FR 61758, Oct. 17, 2000; 70 FR 8533, Feb. 22, 2005]

§ 60.275a Test methods and procedures.
(a) During performance tests required in §60.8, the owner or operator shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.
(b) When emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the owner or operator shall use either or both of the following procedures during a performance test (see also §60.276a(e)):
(1) Determine compliance using the combined emissions.
(2) Use a method that is acceptable to the Administrator and that compensates for the emissions from the facilities not subject to the provisions of this subpart.
(c) When emission from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, the owner or operator shall demonstrate compliance with §60.272(a)(3) based on emissions from only the affected facility(ies).
(d) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
(e) The owner or operator shall determine compliance with the particulate matter standards in §60.272a as follows:
(1) Method 5 shall be used for negative-pressure fabric filters and other types of control devices and Method 5D shall be used for positive-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each

run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.
(2) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$c_{st} = \left[\sum_{i=1}^{n} \left(c_{si} \, Q_{sdi} \right) \right] \sum_{i=1}^{n} Q_{sdi}$$

where:
c_{st}=average concentration of particulate matter, mg/dscm (gr/dscf).
c_{si}=concentration of particulate matter from control device “i”, mg/dscm (gr/dscf).
n=total number of control devices tested.
Q_{sdi}=volumetric flow rate of stack gas from control device “i”, dscm/hr (dscf/hr).
(3) Method 9 and the procedures of §60.11 shall be used to determine opacity.
(4) To demonstrate compliance with §60.272a(a) (1), (2), and (3), the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.
(f) To comply with §60.274a (c), (f), (g), and (h), the owner or operator shall obtain the information required in these paragraphs during the particulate matter runs.
(g) Any control device subject to the provisions of the subpart shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.
(h) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:
(1) Base compliance on control of the combined emissions;
(2) Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of this subpart, or;
(3) Any combination of the criteria of paragraphs (h)(1) and (h)(2) of this section.
(i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this subpart, determinations of compliance with §60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies).
(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under §60.8 to demonstrate compliance with §60.272a(a) (1), (2), and (3) of this subpart.
[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6673, Feb. 14, 1989; 54 FR 21344, May 17, 1989; 65 FR 61758, Oct. 17, 2000]

§ 60.276a Recordkeeping and reporting requirements.
(a) Records of the measurements required in §60.274a must be retained for at least 2 years following the date of the measurement.
(b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Administrator semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.
(c) Operation at a furnace static pressure that exceeds the value established under §60.274a(g) and either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under §60.274a(c) or operation at flow rates lower than those established under §60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually.
(d) The requirements of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.
(e) When the owner or operator of an EAF or AOD is required to demonstrate compliance with the standard under §60.275 (b)(2) or a combination of (b)(1) and (b)(2) the owner or operator shall obtain approval from the Administrator of the procedure(s) that will be used to determine compliance.

Notification of the procedure(s) to be used must be postmarked at least 30 days prior to the performance test.
(f) For the purpose of this subpart, the owner or operator shall conduct the demonstration of compliance with §60.272a(a) of this subpart and furnish the Administrator a written report of the results of the test. This report shall include the following information:
(1) Facility name and address;
(2) Plant representative;
(3) Make and model of process, control device, and continuous monitoring equipment;
(4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
(5) Rated (design) capacity of process equipment;
(6) Those data required under §60.274a(h) of this subpart;
(i) List of charge and tap weights and materials;
(ii) Heat times and process log;
(iii) Control device operation log; and
(iv) Continuous opacity monitor or Method 9 data.
(7) Test dates and test times;
(8) Test company;
(9) Test company representative;
(10) Test observers from outside agency;
(11) Description of test methodology used, including any deviation from standard reference methods;
(12) Schematic of sampling location;
(13) Number of sampling points;
(14) Description of sampling equipment;
(15) Listing of sampling equipment calibrations and procedures;
(16) Field and laboratory data sheets;
(17) Description of sample recovery procedures;
(18) Sampling equipment leak check results;
(19) Description of quality assurance procedures;
(20) Description of analytical procedures;
(21) Notation of sample blank corrections; and
(22) Sample emission calculations.
(g) The owner or operator shall maintain records of all shop opacity observations made in accordance with §60.273a(d). All shop opacity observations in excess of the emission limit specified in §60.272a(a)(3) of this subpart shall indicate a period of excess emission, and shall be reported to the administrator semi-annually, according to §60.7(c).
(h) The owner or operator shall maintain the following records for each bag leak detection system required under §60.273a(e):
(1) Records of the bag leak detection system output;
(2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
(3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.
[49 FR 43845, Oct. 31, 1984, as amended at 54 FR 6673, Feb. 14, 1989; 64 FR 10111, Mar. 2, 1999; 65 FR 61758, Oct. 17, 2000; 70 FR 8533, Feb. 22, 2005]

Attachment D

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart CCC—National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants

Source: 64 FR 33218, June 22, 1999, unless otherwise noted.

§ 63.1155 Applicability.
(a) The provisions of this subpart apply to the following facilities and plants that are major sources for hazardous air pollutants (HAP) or are parts of facilities that are major sources for HAP:
(1) All new and existing steel pickling facilities that pickle carbon steel using hydrochloric acid solution that contains 6 percent or more by weight HCl and is at a temperature of 100 °F or higher; and
(2) All new and existing hydrochloric acid regeneration plants.
(3) The provisions of this subpart do not apply to facilities that pickle carbon steel without using hydrochloric acid, to facilities that pickle only specialty steel, or to acid regeneration plants that regenerate only acids other than hydrochloric acid.
(b) For the purposes of implementing this subpart, the affected sources at a facility or plant subject to this subpart are as follows: Continuous and batch pickling lines, hydrochloric acid regeneration plants, and hydrochloric acid storage vessels.
(c) Table 1 to this subpart specifies the provisions of this part 63, subpart A that apply and those that do not apply to owners and operators of steel pickling facilities and hydrochloric acid regeneration plants subject to this subpart.

§ 63.1156 Definitions.
Terms used in this subpart are defined in the Clean Air Act, in subpart A of this part, or in this section as follows:
Batch pickling line means the collection of equipment and tanks configured for pickling metal in any form but usually in discrete shapes where the material is lowered in batches into a bath of acid solution, allowed to remain until the scale is dissolved, then removed from the solution, drained, and rinsed by spraying or immersion in one or more rinse tanks to remove residual acid.
Carbon steel means steel that contains approximately 2 percent or less carbon, 1.65 percent or less manganese, 0.6 percent or less silicon, and 0.6 percent or less copper.
Closed-vent system means a system that is not open to the atmosphere and that is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport emissions from a process unit or piece of equipment (e.g., pumps, pressure relief devices, sampling connections, open-ended valves or lines, connectors, and instrumentation systems) back into a closed system or into any device that is capable of reducing or collecting emissions.
Continuous pickling line means the collection of equipment and tanks configured for pickling metal strip, rod, wire, tube, or pipe that is passed through an acid solution in a continuous or nearly continuous manner and rinsed in another tank or series of tanks to remove residual acid. This definition includes continuous spray towers.
Hydrochloric acid regeneration plant means the collection of equipment and processes configured to reconstitute fresh hydrochloric acid pickling solution from spent pickle liquor using a thermal treatment process.
Hydrochloric acid regeneration plant production mode means operation under conditions that result in production of usable regenerated acid or iron oxide.
Hydrochloric acid storage vessel means a stationary vessel used for the bulk containment of virgin or regenerated hydrochloric acid.
Responsible maintenance official means a person designated by the owner or operator as having the knowledge and the authority to sign records and reports required under this rule.
Specialty steel means a category of steel that includes silicon electrical, alloy, tool, and stainless steels.
Spray tower means an enclosed vertical tower in which acid pickling solution is sprayed onto moving steel strip in multiple vertical passes.

Steel pickling means the chemical removal of iron oxide mill scale that is formed on steel surfaces during hot rolling or hot forming of semi-finished steel products through contact with an aqueous solution of acid where such contact occurs prior to shaping or coating of the finished steel product. This definition does not include removal of light rust or scale from finished steel products or activation of the metal surface prior to plating or coating.
Steel pickling facility means any facility that operates one or more batch or continuous steel pickling lines.

§ 63.1157 Emission standards for existing sources.
(a) *Pickling lines.* No owner or operator of an existing affected continuous or batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:
(1) Any gases that contain HCl in a concentration in excess of 18 parts per million by volume (ppmv); or
(2) HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent.
(b) *Hydrochloric acid regeneration plants.* (1) No owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain HCl in a concentration greater than 25 ppmv.
(2) In addition to the requirement of paragraph (b)(1) of this section, no owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain chlorine (Cl_2) in a concentration in excess of either 6 ppmv or an alternative source-specific maximum concentration. The source-specific maximum concentration standard shall be established according to §63.1161(c)(2) of this subpart.

§ 63.1158 Emission standards for new or reconstructed sources.
(a) *Pickling lines* —(1) *Continuous pickling lines.* No owner or operator of a new or reconstructed affected continuous pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:
(i) Any gases that contain HCl in a concentration in excess of 6 ppmv; or
(ii) HCl at a mass emission rate that corresponds to a collection efficiency of less than 99 percent.
(2) *Batch pickling lines.* No owner or operator of a new or reconstructed affected batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line:
(i) Any gases that contain HCl in a concentration in excess of 18 ppmv; or
(ii) HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent.
(b) *Hydrochloric acid regeneration plants.* (1) No owner or operator of a new or reconstructed affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain HCl in a concentration greater than 12 ppmv.
(2) In addition to the requirement of paragraph (b)(1) of this section, no owner or operator of a new or reconstructed affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain Cl_2in a concentration in excess of 6 ppmv.

§ 63.1159 Operational and equipment standards for existing, new, or reconstructed sources.
(a) *Hydrochloric acid regeneration plant.* The owner or operator of an affected plant must operate the affected plant at all times while in production mode in a manner that minimizes the proportion of excess air fed to the process and maximizes the process offgas temperature consistent with producing usable regenerated acid or iron oxide.
(b) *Hydrochloric acid storage vessels.* The owner or operator of an affected vessel shall provide and operate, except during loading and unloading of acid, a closed-vent system for each vessel. Loading and unloading shall be conducted either through enclosed lines or each point where the acid is exposed to the atmosphere shall be equipped with a local fume capture system, ventilated through an air pollution control device.

§ 63.1160 Compliance dates and maintenance requirements.
(a) *Compliance dates.* (1) The owner or operator of an affected existing steel pickling facility and/or hydrochloric acid regeneration plant subject to this subpart shall achieve initial compliance with the requirements of this subpart no later than June 22, 2001.

(2) The owner or operator of a new or reconstructed steel pickling facility and/or hydrochloric acid regeneration plant subject to this subpart that commences construction or reconstruction after September 18, 1997, shall achieve compliance with the requirements of this subpart immediately upon startup of operations or by June 22, 1999, whichever is later.
(b) *Maintenance requirements.* (1) The owner or operator of an affected source shall comply with the operation and maintenance requirements prescribed under §63.6(e) of subpart A of this part.
(2) In addition to the requirements specified in paragraph (b)(1) of this section, the owner or operator shall prepare an operation and maintenance plan for each emission control device to be implemented no later than the compliance date. The plan shall be incorporated by reference into the source's title V permit. All such plans must be consistent with good maintenance practices and, for a scrubber emission control device, must at a minimum:
(i) Require monitoring and recording the pressure drop across the scrubber once per shift while the scrubber is operating in order to identify changes that may indicate a need for maintenance;
(ii) Require the manufacturer's recommended maintenance at the recommended intervals on fresh solvent pumps, recirculating pumps, discharge pumps, and other liquid pumps, in addition to exhaust system and scrubber fans and motors associated with those pumps and fans;
(iii) Require cleaning of the scrubber internals and mist eliminators at intervals sufficient to prevent buildup of solids or other fouling;
(iv) Require an inspection of each scrubber at intervals of no less than 3 months with:
(A) Cleaning or replacement of any plugged spray nozzles or other liquid delivery devices;
(B) Repair or replacement of missing, misaligned, or damaged baffles, trays, or other internal components;
(C) Repair or replacement of droplet eliminator elements as needed;
(D) Repair or replacement of heat exchanger elements used to control the temperature of fluids entering or leaving the scrubber; and
(E) Adjustment of damper settings for consistency with the required air flow.
(v) If the scrubber is not equipped with a viewport or access hatch allowing visual inspection, alternate means of inspection approved by the Administrator may be used.
(vi) The owner or operator shall initiate procedures for corrective action within 1 working day of detection of an operating problem and complete all corrective actions as soon as practicable. Procedures to be initiated are the applicable actions that are specified in the maintenance plan. Failure to initiate or provide appropriate repair, replacement, or other corrective action is a violation of the maintenance requirement of this subpart.
(vii) The owner or operator shall maintain a record of each inspection, including each item identified in paragraph (b)(2)(iv) of this section, that is signed by the responsible maintenance official and that shows the date of each inspection, the problem identified, a description of the repair, replacement, or other corrective action taken, and the date of the repair, replacement, or other corrective action taken.
(3) The owner or operator of each hydrochloric acid regeneration plant shall develop and implement a written maintenance program. The program shall require:
(i) Performance of the manufacturer's recommended maintenance at the recommended intervals on all required systems and components;
(ii) Initiation of procedures for appropriate and timely repair, replacement, or other corrective action within 1 working day of detection; and
(iii) Maintenance of a daily record, signed by a responsible maintenance official, showing the date of each inspection for each requirement, the problems found, a description of the repair, replacement, or other action taken, and the date of repair or replacement.

§ 63.1161 Performance testing and test methods.
(a) *Demonstration of compliance.* The owner or operator shall conduct an initial performance test for each process or emission control device to determine and demonstrate compliance with the applicable emission limitation according to the requirements in §63.7 of subpart A of this part and in this section.
(1) Following approval of the site-specific test plan, the owner or operator shall conduct a performance test for each process or control device to either measure simultaneously the mass flows of HCl at the inlet and the outlet of the control device (to determine compliance with the applicable collection efficiency

standard) or measure the concentration of HCl (and $Cl_2$for hydrochloric acid regeneration plants) in gases exiting the process or the emission control device (to determine compliance with the applicable emission concentration standard).
(2) Compliance with the applicable concentration standard or collection efficiency standard shall be determined by the average of three consecutive runs or by the average of any three of four consecutive runs. Each run shall be conducted under conditions representative of normal process operations.
(3) Compliance is achieved if either the average collection efficiency as determined by the HCl mass flows at the control device inlet and outlet is greater than or equal to the applicable collection efficiency standard, or the average measured concentration of HCl or Cl_2exiting the process or the emission control device is less than or equal to the applicable emission concentration standard.
(b) *Establishment of scrubber operating parameters.* During the performance test for each emission control device, the owner or operator using a wet scrubber to achieve compliance shall establish site-specific operating parameter values for the minimum scrubber makeup water flow rate and, for scrubbers that operate with recirculation, the minimum recirculation water flow rate. During the emission test, each operating parameter must be monitored continuously and recorded with sufficient frequency to establish a representative average value for that parameter, but no less frequently than once every 15 minutes. The owner or operator shall determine the operating parameter monitoring values as the averages of the values recorded during any of the runs for which results are used to establish the emission concentration or collection efficiency per paragraph (a)(2) of this section. An owner or operator may conduct multiple performance tests to establish alternative compliant operating parameter values. Also, an owner or operator may reestablish compliant operating parameter values as part of any performance test that is conducted subsequent to the initial test or tests.
(c) *Establishment of hydrochloric acid regeneration plant operating parameters.* (1) During the performance test for hydrochloric acid regeneration plants, the owner or operator shall establish site-specific operating parameter values for the minimum process offgas temperature and the maximum proportion of excess air fed to the process as described in §63.1162(b)(1) of this subpart. During the emission test, each operating parameter must be monitored and recorded with sufficient frequency to establish a representative average value for that parameter, but no less frequently than once every 15 minutes for parameters that are monitored continuously. Amount of iron in the spent pickle liquor shall be determined for each run by sampling the liquor every 15 minutes and analyzing a composite of the samples. The owner or operator shall determine the compliant monitoring values as the averages of the values recorded during any of the runs for which results are used to establish the emission concentration per paragraph (a)(2) of this section. An owner or operator may conduct multiple performance tests to establish alternative compliant operating parameter values. Also, an owner or operator may reestablish compliant operating parameter values as part of any performance test that is conducted subsequent to the initial test or tests.
(2) During this performance test, the owner or operator of an existing affected plant may establish an alternative concentration standard if the owner or operator can demonstrate to the Administrator's satisfaction that the plant cannot meet a concentration limitation for $Cl_2$of 6 ppmv when operated within its design parameters. The alternative concentration standard shall be established through performance testing while the plant is operated at maximum design temperature and with the minimum proportion of excess air that allows production of iron oxide of acceptable quality while measuring the Cl_2concentration in the process exhaust gas. The measured concentration shall be the concentration standard for that plant.
(d) *Test methods.* (1) The following test methods in appendix A of 40 CFR part 60 shall be used to determine compliance under §§63.1157(a), 63.1157(b), 63.1158(a), and 63.1158(b) of this subpart:
(i) Method 1, to determine the number and location of sampling points, with the exception that no traverse point shall be within one inch of the stack or duct wall;
(ii) Method 2, to determine gas velocity and volumetric flow rate;
(iii) Method 3, to determine the molecular weight of the stack gas;
(iv) Method 4, to determine the moisture content of the stack gas; and
(v) Method 26A, “Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources—Isokinetic Method,” to determine the HCl mass flows at the inlet and outlet of a control device or the concentration of HCl discharged to the atmosphere, and also to determine the concentration of

Cl_2discharged to the atmosphere from acid regeneration plants. If compliance with a collection efficiency standard is being demonstrated, inlet and outlet measurements shall be performed simultaneously. The minimum sampling time for each run shall be 60 minutes and the minimum sample volume 0.85 dry standard cubic meters (30 dry standard cubic feet). The concentrations of HCl and Cl_2shall be calculated for each run as follows:
C_{HCl}(ppmv) = 0.659 C_{HCl}(mg/dscm),
and C_{C12}(ppmv) = 0.339 C_{C12}(mg/dscm),
where C(ppmv) is concentration in ppmv and C(mg/dscm) is concentration in milligrams per dry standard cubic meter as calculated by the procedure given in Method 26A.
(2) The owner or operator may use equivalent alternative measurement methods approved by the Administrator.

§ 63.1162 Monitoring requirements.
(a) The owner or operator of a new, reconstructed, or existing steel pickling facility or acid regeneration plant subject to this subpart shall:
(1) Conduct performance tests to measure the HCl mass flows at the control device inlet and outlet or the concentration of HCl exiting the control device according to the procedures described in §63.1161 of this subpart. Performance tests shall be conducted either annually or according to an alternative schedule that is approved by the applicable permitting authority, but no less frequently than every 21/2years or twice per title V permit term. If any performance test shows that the HCl emission limitation is being exceeded, then the owner or operator is in violation of the emission limit.
(2) In addition to conducting performance tests, if a wet scrubber is used as the emission control device, install, operate, and maintain systems for the measurement and recording of the scrubber makeup water flow rate and, if required, recirculation water flow rate. These flow rates must be monitored continuously and recorded at least once per shift while the scrubber is operating. Operation of the wet scrubber with excursions of scrubber makeup water flow rate and recirculation water flow rate less than the minimum values established during the performance test or tests will require initiation of corrective action as specified by the maintenance requirements in §63.1160(b)(2) of this subpart.
(3) If an emission control device other than a wet scrubber is used, install, operate, and maintain systems for the measurement and recording of the appropriate operating parameters.
(4) Failure to record each of the operating parameters listed in paragraph (a)(2) of this section is a violation of the monitoring requirements of this subpart.
(5) Each monitoring device shall be certified by the manufacturer to be accurate to within 5 percent and shall be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.
(6) The owner or operator may develop and implement alternative monitoring requirements subject to approval by the Administrator.
(b) The owner or operator of a new, reconstructed, or existing acid regeneration plant subject to this subpart shall also install, operate, and maintain systems for the measurement and recording of the:
(1) Process offgas temperature, which shall be monitored continuously and recorded at least once every shift while the facility is operating in production mode; and
(2) Parameters from which proportion of excess air is determined. Proportion of excess air shall be determined by a combination of total air flow rate, fuel flow rate, spent pickle liquor addition rate, and amount of iron in the spent pickle liquor, or by any other combination of parameters approved by the Administrator in accordance with §63.8(f) of subpart A of this part. Proportion of excess air shall be determined and recorded at least once every shift while the plant is operating in production mode.
(3) Each monitoring device must be certified by the manufacturer to be accurate to within 5 percent and must be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.
(4) Operation of the plant with the process offgas temperature lower than the value established during performance testing or with the proportion of excess air greater than the value established during performance testing is a violation of the operational standard specified in §63.1159(a) of this subpart.

(c) The owner or operator of an affected hydrochloric acid storage vessel shall inspect each vessel semiannually to determine that the closed-vent system and either the air pollution control device or the enclosed loading and unloading line, whichever is applicable, are installed and operating when required.

§ 63.1163 Notification requirements.
(a) *Initial notifications.* As required by §63.9(b) of subpart A of this part, the owner or operator shall submit the following written notifications to the Administrator:
(1) The owner or operator of an area source that subsequently becomes subject to the requirements of the standard shall provide notification to the applicable permitting authority as required by §63.9(b)(1) of subpart A of this part.
(2) As required by §63.9(b)(2) of subpart A of this part, the owner or operator of an affected source that has an initial startup before June 22, 1999, shall notify the Administrator that the source is subject to the requirements of the standard. The notification shall be submitted not later than October 20, 1999 (or within 120 calendar days after the source becomes subject to this standard), and shall contain the information specified in §§63.9(b)(2)(i) through 63.9(b)(2)(v) of subpart A of this part.
(3) As required by §63.9(b)(3) of subpart A of this part, the owner or operator of a new or reconstructed affected source, or a source that has been reconstructed such that it is an affected source, that has an initial startup after the effective date and for which an application for approval of construction or reconstruction is not required under §63.5(d) of subpart A of this part, shall notify the Administrator in writing that the source is subject to the standards no later than 120 days after initial startup. The notification shall contain the information specified in §§63.9(b)(2)(i) through 63.9(b)(2)(v) of subpart A of this part, delivered or postmarked with the notification required in §63.9(b)(5) of subpart A of this part.
(4) As required by §63.9(b)(4) of subpart A of this part, the owner or operator of a new or reconstructed major affected source that has an initial startup after June 22, 1999, and for which an application for approval of construction or reconstruction is required under §63.5(d) of subpart A of this part shall provide the information specified in §§63.9(b)(4)(i) through 63.9(b)(4)(v) of subpart A of this part.
(5) As required by §63.9(b)(5) of subpart A of this part, the owner or operator who, after June 22, 1999, intends to construct a new affected source or reconstruct an affected source subject to this standard, or reconstruct a source such that it becomes an affected source subject to this standard, shall notify the Administrator, in writing, of the intended construction or reconstruction.
(b) *Request for extension of compliance.* As required by §63.9(c) of subpart A of this part, if the owner or operator of an affected source cannot comply with this standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with §63.6(i)(5) of subpart A of this part, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in §§63.6(i)(4) through 63.6(i)(6) of subpart A of this part.
(c) *Notification that source is subject to special compliance requirements.* As required by §63.9(d) of subpart A of this part, an owner or operator of a new source that is subject to special compliance requirements as specified in §§63.6(b)(3) and 63.6(b)(4) of subpart A of this part shall notify the Administrator of his/her compliance obligations not later than the notification dates established in §63.9(b) of subpart A of this part for new sources that are not subject to the special provisions.
(d) *Notification of performance test.* As required by §63.9(e) of subpart A of this part, the owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin, to allow the Administrator to review and approve the site-specific test plan required under §63.7(c) of subpart A of this part and, if requested by the Administrator, to have an observer present during the test.
(e) *Notification of compliance status.* The owner or operator of an affected source shall submit a notification of compliance status as required by §63.9(h) of subpart A of this part when the source becomes subject to this standard.

§ 63.1164 Reporting requirements.
(a) *Reporting results of performance tests.* As required by §63.10(d)(2) of subpart A of this part, the owner or operator of an affected source shall report the results of any performance test as part of the notification of compliance status required in §63.1163 of this subpart.

(b) *Progress reports.* The owner or operator of an affected source who is required to submit progress reports under §63.6(i) of subpart A of this part shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.
(c) *Periodic startup, shutdown, and malfunction reports.* Section 63.6(e) of subpart A of this part requires the owner or operator of an affected source to operate and maintain each affected emission source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the level required by the standard at all times, including during any period of startup, shutdown, or malfunction. Malfunctions must be corrected as soon as practicable after their occurrence.
(1) *Plan.* As required by §63.6(e)(3) of subpart A of this part, the owner or operator shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, or malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standards.
(2) *Reports.* As required by §63.10(d)(5)(i) of subpart A of this part, if actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the startup, shutdown, and malfunction plan, the owner or operator shall state such information in a semiannual report. The report, to be certified by the owner or operator or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half; and
(3) *Immediate reports.* Any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the owner or operator shall comply with all requirements of §63.10(d)(5)(ii) of subpart A of this part.
[64 FR 33218, June 22, 1999, as amended at 71 FR 20458, Apr. 20, 2006]

§ 63.1165 Recordkeeping requirements.
(a) *General recordkeeping requirements.* As required by §63.10(b)(2) of subpart A of this part, the owner or operator shall maintain records for 5 years from the date of each record of:
(1) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);
(2) The occurrence and duration of each malfunction of the air pollution control equipment;
(3) All maintenance performed on the air pollution control equipment;
(4) Actions taken during periods of startup, shutdown, and malfunction and the dates of such actions (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when these actions are different from the procedures specified in the startup, shutdown, and malfunction plan;
(5) All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. This information can be recorded in a checklist or similar form (see §63.10(b)(2)(v) of subpart A of this part);
(6) All required measurements needed to demonstrate compliance with the standard and to support data that the source is required to report, including, but not limited to, performance test measurements (including initial and any subsequent performance tests) and measurements as may be necessary to determine the conditions of the initial test or subsequent tests;
(7) All results of initial or subsequent performance tests;
(8) If the owner or operator has been granted a waiver from recordkeeping or reporting requirements under §63.10(f) of subpart A of this part, any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements;
(9) If the owner or operator has been granted a waiver from the initial performance test under §63.7(h) of subpart A of this part, a copy of the full request and the Administrator's approval or disapproval;
(10) All documentation supporting initial notifications and notifications of compliance status required by §63.9 of subpart A of this part; and

(11) Records of any applicability determination, including supporting analyses.
(b) *Subpart CCC records.* (1) In addition to the general records required by paragraph (a) of this section, the owner or operator shall maintain records for 5 years from the date of each record of:
(i) Scrubber makeup water flow rate and recirculation water flow rate if a wet scrubber is used;
(ii) Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent; and
(iii) Each maintenance inspection and repair, replacement, or other corrective action.
(2) The owner or operator of an acid regeneration plant shall also maintain records for 5 years from the date of each record of process offgas temperature and parameters that determine proportion of excess air.
(3) The owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the plan on record to be made available for inspection by the Administrator for a period of 5 years after each revision to the plan.
(c) *Recent records.* General records and subpart CCC records for the most recent 2 years of operation must be maintained on site. Records for the previous 3 years may be maintained off site.

§ 63.1166 Implementation and enforcement.
(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.
(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.
(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (8) of this section.
(1) Approval of alternatives to the requirements in §§63.1155, 63.1157 through 63.1159, and 63.1160(a).
(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.
(3) Approval of any alternative measurement methods for HCl and $CL_2$to those specified in §63.1161(d)(1).
(4) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.
(5) Approval of any alternative monitoring requirements to those specified in §§63.1162(a)(2) through (5) and 63.1162(b)(1) through (3).
(6) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.
(7) Waiver of recordkeeping requirements specified in §63.1165.
(8) Approval of an alternative schedule for conducting performance tests to the requirement specified in §63.1162(a)(1).

[68 FR 37356, June 23, 2003]

§§ 63.1167-63.1174 [Reserved]
Table 1 to Subpart CCC of Part 63—Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

Reference	Applies to Subpart CCC	Explanation
63.1–63.5	Yes.	

Reference	**Applies to Subpart CCC**	**Explanation**
63.6 (a)–(g)	Yes.	
63.6 (h)	No	Subpart CCC does not contain an opacity or visible emission standard.
63.6 (i)–(j)	Yes.	
63.7–63.9	Yes.	
63.10 (a)–(c)	Yes.	
63.10 (d) (1)–(2)	Yes.	
63.10 (d)(3)	No	Subpart CCC does not contain an opacity or visible emission standard.
63.10 (d) (4)–(5)	Yes.	
63.10 (e)–(f)	Yes.	
63.11	No	Subpart CCC does not require the use of flares.
63.12–63.15	Yes	

Attachment E

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.
[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.
(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.
(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.
(c) An area source of HAP emissions is a source that is not a major source.
(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.
(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.
[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.
(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.
(1) *Existing stationary RICE.*
(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a 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.
(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section 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.
(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(f) 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.
(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:
(i) 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;
(ii) 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;
(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;
(v) 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;
(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;
(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or
(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.
(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;
(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;
(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 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;
(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;
(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.
[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.
(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.
(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.
(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.
(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.
(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.
(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.
(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.
(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.
(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.
[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.
(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.
(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.
(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.
(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.
[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.
[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.
[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.
(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.
(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.
[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.
[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.
(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.
(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).
(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).
(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).
(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.
(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
(2) The test must not be older than 2 years.
(3) The test must be reviewed and accepted by the Administrator.
(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.
(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.
[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.
[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).
(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.
(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
(2) The test must not be older than 2 years.
(3) The test must be reviewed and accepted by the Administrator.
(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.
[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.
(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.
(c) [Reserved]
(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.
(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:
C_i= concentration of CO or formaldehyde at the control device inlet,
C_o= concentration of CO or formaldehyde at the control device outlet, and
R = percent reduction of CO or formaldehyde emissions.
(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2concentration is measured in lieu of oxygen concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.
(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209\, F_d}{F_c} \qquad \text{(Eq. 2)}$$

Where:
F_o= Fuel factor based on the ratio of oxygen volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.
0.209 = Fraction of air that is oxygen, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).
F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).
(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 3)}$$

Where:
X_{co2}= CO_2correction factor, percent.
5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.
(iii) Calculate the $NO_X$and SO_2gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \qquad \text{(Eq. 4)}$$

Where:
$\%CO_2$= Measured CO_2concentration measured, dry basis, percent.
(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.
(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.
(1) Identification of the specific parameters you propose to use as operating limitations;
(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;
(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.
(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.
(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;
(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;
(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.
(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.
[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.
(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.
(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.
(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2concentration.
(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.
(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.
(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;
(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;
(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;
(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and
(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).
(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.
(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.
(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.
(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.
(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.
(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.
(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:
(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;
(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;
(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;
(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;
(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;
(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;
(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and
(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.
(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.
(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.
(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or
(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.
(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.
[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.
(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.
(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.
(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.
[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.
(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.
(c) [Reserved]
(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).
(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.
(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, 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 that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this

section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.
(i) There is no time limit on the use of emergency stationary RICE in emergency situations.
(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.
(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.
(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.
(i) There is no time limit on the use of emergency stationary RICE in emergency situations.
(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.
(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.
(2) An existing stationary RICE located at an area source of HAP emissions.
(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.
(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.
(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.
(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.
(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).
(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).
(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).
[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.
(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.
(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.
(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.
(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.
(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.
(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.
(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.
(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.
(1) Company name and address.
(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
(3) Date of report and beginning and ending dates of the reporting period.
(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.
(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.
(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.
(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.
(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.
(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.
(1) The date and time that each malfunction started and stopped.
(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.
(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.
(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.
(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.
(9) A brief description of the stationary RICE.
(10) A brief description of the CMS.
(11) The date of the latest CMS certification or audit.
(12) A description of any changes in CMS, processes, or controls since the last reporting period.
(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.
(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.
(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.
(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.
(3) Any problems or errors suspected with the meters.
[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.
(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).
(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.
(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).
(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.
(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.
(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).
(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.
(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.
(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.
(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;
(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.
(2) An existing stationary emergency RICE.
(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.
(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.
(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.
(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.
[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).
(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.
(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).
[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following

RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.
[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.
(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.
(c) The authorities that will not be delegated to State, local, or tribal agencies are:
(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).
(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.
(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.
(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.
(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:
Area source means any stationary source of HAP that is not a major source as defined in part 63.
Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.
Black start engine means an engine whose only purpose is to start up a combustion turbine.
CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101–549, 104 Stat. 2399).
Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.
Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.
Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.
Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:
(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.
(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).
Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.
Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.
Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.
Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.
Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.
Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.
Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.
Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.
Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.
Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.
Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.
Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.
ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.
Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.
Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.
Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.
Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.
Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:
(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;
(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;
(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and
(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.
Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.
Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.
Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.
Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.
Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.
Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.
Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.
Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas

production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 1ato Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1bto Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and using NSCR.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using	Comply with any operating limitations approved by the Administrator.

NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O2 and not using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and not using NSCR.	

[76 FR 12867, Mar. 9, 2011]

Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	**You must meet the following operating limitation . . .**
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[2]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI	a. Limit concentration of CO in the stationary RICE exhaust to	

RICE >500 HP	23 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2	

10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.
[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.
[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.
[75 FR 51593, Aug. 20, 2010]

Table 2dto Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	**You must meet the following requirement, except during periods of startup . . .**	**During periods of startup you must . . .**
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually,	

	whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB	a. Change oil and filter	

stationary RICE	every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually,	

	whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O_2; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.
[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.
[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	**Complying with the requirement to . . .**	**You must . . .**
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]

>500 located at major sources		
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.
[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	**Complying with the requirement to . . .**	**You must . . .**	**Using . . .**	**According to the following requirements . . .**
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O_2 at the inlet and outlet of the control device; and	(1) Portable CO and O_2 analyzer	(a) Using ASTM D6522–00 (2005)[a] (incorporated by reference, see §63.14). Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O_2 analyzer	(a) Using ASTM D6522–00 (2005)[ab] (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO

				concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005)	(a) Measurements to determine O_2concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03,[c]provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the	(1) Method 320 or 323 of 40 CFR part 63,	(a) Formaldehyde concentration must be at 15

		exhaust of the stationary RICE; or	appendix A; or ASTM D6348–03,[c]provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005),[a]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03	(a) CO Concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.
[b]You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.
[c]You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.
[75 FR 51597, Aug. 20, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	**Complying with the requirement to . . .**	**You have demonstrated initial compliance if. . .**
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet

area source of HAP that are operated more than 24 hours per calendar year		temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP,	a. Limit the concentration of CO,	i. You have installed a CEMS to continuously monitor CO and either

existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	and using a CEMS	O_2or CO_2at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Limit the concentration of formaldehyde and not using NSCR	i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the

		requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
13. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[76 FR 12867, Mar. 9, 2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a]and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a]and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO

>500 HP located at an area source of HAP that are operated more than 24 hours per calendar year		concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating

		limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as

24 hours per calendar year and are not limited use stationary RICE	exhaust, and using oxidation catalyst or NSCR	appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet

		temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.
[76 FR 12870, Mar. 9, 2011]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4) i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the requirements in §63.6650(b).	
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and i. Annually, according to the requirements	

		in §63.6650.	
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and i. See item 2.a.i.	
		c. Any problems or errors suspected with the meters. i. See item 2.a.i.	

[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring	Yes	Subpart ZZZZ contains specific

General provisions citation	Subject of citation	Applies to subpart	Explanation
	requirements		requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating

General provisions citation	Subject of citation	Applies to subpart	Explanation
			compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Significant Source Modification and a Part 70 Operating Permit Renewal

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.:	107-31415-00038
Part 70 Operating Permit Renewal No.:	107-30293-00038
Permit Reviewer:	Aida DeGuzman

On March 30, 2012, 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 Part 70 Operating Permit Renewal. These permits will allow Nucor Steel to make some changes to the plant and to continue operating the steel mini-mill.

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 April 26, 2012, Nucor Steel made the following comments to the draft Significant Source Modification and Part 70 Operating Permit Renewal. Additions are **bolded** and deletions are ~~struck-through~~ for emphasis:

PERMIT COMMENTS

Comment 1:

Section D.1.6 - FACILITY OPERATION CONDITIONS - Vacuum Degasser and Flare – Testing Requirements:

The condition in the previous permit modification (SPM 107-30895-00038) did not indicate any repeat test. This emission unit has not been modified. IDEM has proposed to revise this condition to require testing every 2.5 years, but has provided no rationale for why such additional testing is required. Nucor requests that the permit either require testing only once, or at most request testing only once every 5 years, because testing the flare is difficult and the parametric monitoring is in place, which ensures that the flare pilot is operating properly, provides a strong measure of assurance that the flare is operating properly. Given that the flare is otherwise a simple combustion device, there is no warrant for such an extensive testing regime.

IDEM Response 1:

IDEM acknowledges that Condition D.1.6 as stated in permits prior to the proposed Part 70 Operating Permit Renewal did not require repeat testing for the flare.

The Indiana Part 70 rules require that operating permits must cite all applicable requirements, a

description of the compliance status of the source with respect to all applicable requirements, and methods for determining compliance. This includes repeat testing to verify actual compliance and establishing parameters to be maintained and monitored to demonstrate continuous compliance with an applicable requirement or emission limitation. As the control equipment ages, it becomes less efficient. Repeat testing can verify if it is still in compliance. Therefore, the repeat testing required in Condition D.1.6 shall remain. However, IDEM, OAQ made the testing less frequent, from every 2.5 years to every 5 years. The revision to Condition D.1.6 is as follows:

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

Within ~~2.5~~ **five (5)** years after the most recent valid compliance demonstration, the Permittee shall conduct carbon monoxide (CO) testing on the enclosed flare stack 500 used in conjunction with the vacuum degasser to demonstrate compliance with the emission limitations in Conditions D.1.1(b) and D.1.3(d), utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every ~~two and one half (2.5)~~ **five (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.

Comment 2:

D.3.11 – FACILITY OPERATION CONDITIONS - Preheaters, Dryers, and Alloy Unloading – Testing Requirements:

Nucor requests that the proposed testing requirement be removed, as it is not necessary for compliance with this requirement. The apparatus is a small displacement air baghouse used to control infrequent lime addition activities in an enclosed area. The proposed limits are within the vendor's guarantee, and the guarantee and the requirement to maintain equipment in good operating order provides an adequate assurance of compliance. Nucor operates numerous similar activities, none of which has been required to undertake periodic testing of this nature. Additionally, the cost of requiring testing would far outweigh any environmental impact.

IDEM Response 2:

The uncontrolled Potential to Emit from the new and modified emission units for this proposed source modification (SSM 107-31415-00038) are greater than 15 tons per year of PM10 and greater than 10 tons per year of PM2.5. Therefore, in order to limit the source modification below the PSD significant levels, the control equipment for the proposed lime screw auger has been made federally enforceable. The auger conveys lime into an existing hopper located inside an enclosed building. Particulate collected from this building is vented back into the lime silo, SAS #1, to be controlled by the bin vent filter. Thus, testing of the bin vent silo is required to verify compliance with the PSD minor limits. Furthermore, the building is likewise required to be totally closed whenever the lime screw auger is in operation to ensure complete capture of the particulate. Therefore, no change has been made to the permit as a result of this comment.

Comment 3:

D.3.12 – CONDITIONS - Preheaters, Dryers, and Alloy Unloading – Capture System:

As stated in D.3(k)(2) and on page 3 of the TSD, the building that is used to capture particulate emissions is totally closed. We request that IDEM remove the words "or be maintained at a negative pressure…" to maintain consistency with the requirement.

IDEM Response 3:

IDEM, OAQ has deleted the words "or be maintained at a negative pressure" in Condition D.3.12 as follows:

D.3.12 Capture System

The building that is used to capture particulate emissions from the Lime Screw Auger Hopper shall be totally closed ~~or be maintained at a negative pressure~~ whenever the Lime Screw Auger Hopper is in operation.

Comment 4:

D.3.13 – FACILITY OPERATION CONDITIONS - Preheaters, Dryers, and Alloy Unloading – Bin Vent Filter Parametric Monitoring:

Nucor requests that IDEM remove the language "until a range is re-established during the latest stack test…" As requested above in D.3.11, no testing requirements should be required for these sources. The proposed limits will be what the vendor guarantees for proper operation.

IDEM Response 4:

Stack testing is required for the lime silo, SAS #1 bin vent filter, as discussed in Response 2. IDEM has made a change to the model language pertaining to Parametric Monitoring. This change will apply to all Indiana sources with the same permit requirement. The change is as follows:

D.3.13 Bin Vent Filter Parametric Monitoring

The Permittee shall record the pressure drop across the Lime Silo, SAS #1 bin vent filter used in conjunction with the Screw Auger for Lime Silo SAS #1 at least once per day when the Screw Auger 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 until a range is re-established during the latest stack test~~, the Permittee shall take reasonable response ~~steps.~~ **The normal range for this unit is a pressure drop between 1.0 and 11.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.** 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

This new Parametric Monitoring language will likewise be incorporated in Conditions D.4.10, D.7.13 and D.31.8.

Comment 5:

D.4.8 – FACILITY OPERATION CONDITIONS - LMS, Tundish, and Continuous Strip Caster – Performance Testing:

Nucor requests that IDEM remove the testing frequency of 2.5 years for the testing of NOx, CO and SO2 to reflect the limit on page 70 of the TSD – table of Existing Emission Units as a 1-time test.

IDEM Response 5:

IDEM has determined that only one (1) time testing is required to measure NOx, CO and SO2 emissions from the LMS Castrip operation as these pollutants are not controlled by a control device. Therefore, Condition D. 4.8 has been revised by deleting the testing for these pollutants since the source has already complied with the initial test. The revision is as follows:

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

(a) Within 2.5 years after the most recent valid compliance demonstration, the Permittee shall conduct PM, ~~NOx, CO, SO_2,~~ and opacity compliance stack tests for the LMS-2 baghouse stack (S-20) to demonstrate compliance with the emission limitations in Conditions D.4.1(d) **and** D.4.1(f), ~~D.4.2, D.4.3, D.4.4,~~ utilizing methods as approved by the Commissioner.

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.

(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) 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.

(d) 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.

(e) All compliance stack tests shall be repeated at least once every 2.5 years from the date of a 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.

Comment 6:

D.4.10 – FACILITY OPERATION CONDITIONS - LMS, Tundish, and Continuous Strip Caster – Baghouse Parametric Monitoring:

In the previous permit modification, this condition used the word "or" instead of "until" in the sentence "1 and 10 inches of water *until* a range is established…" Nucor requests that the permit condition continue to use the word "or" instead of "until" to denote the option for the facility. As

Nucor has done in the past, we would like to maintain the range and flexibility, and adjust with subsequent testing.

IDEM Response 6:

The language in the Parametric Monitoring condition of "1.0 and 6 inches of water or a range established during the latest stack test..." is not intended to provide operational flexibility to the source. If the pressure reading during the stack test is within the manufacturer's pressure range of 1 and 6 inches of water, then the Permittee shall continue to operate at that range. However, if the stack test reading is outside the manufacturer's pressure range and is between 1 inch and 8 inches, for example, then a new range is established with a new upper-bound value.

IDEM has made a change to the model language, specifically to Parametric Monitoring for baghouses. See related IDEM Response 4. This change will apply to all Indiana sources with the same permit requirement. The change is as follows:

D.4.10 Baghouse Parametric Monitoring [40 CFR 64]

(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 until a range is established during the latest stack test~~, the Permittee shall take reasonable response ~~steps~~. **The normal range for this unit is a pressure drop between 1.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.** Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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.

(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. 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. Whenever the fan amperes are more than 15% above or below the above-mentioned value for any one reading, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from 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 or replaced at least once annually.

Comment 7:

D.4.13 – FACILITY OPERATION CONDITIONS - LMS, Tundish, and Continuous Strip Caster – Reporting Requirements:

Nucor requests that IDEM revise this condition to accurately reflect the requirements of the preceding condition, D.4.9, which is for visible notations, not testing.

IDEM Response 7:

Condition D.4.13 has been revised due to a typographical error. The revision is as follows:

D.4.13 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.4.6 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)

(b) The Permittee shall submit performance test protocols and performance test reports required by Operation Condition ~~D.4.9~~ **D.4.8** in accordance with the reporting requirements established in Section C - Performance Testing and Section C - General Reporting Requirements.

Comment 8:

D.8 – FACILITY OPERATION CONDITIONS - LINDE Gases Plant:

The proposed project includes a correction to the permit based upon the actual capacity of the LINDE boiler that was installed at the plant. The permitted capacity was for a 9 MMBtu/hr but LINDE constructed a smaller unit at 7 MMBtu/hr.

IDEM Response 8:

The permit has been revised to state the actual size of the LINDE boiler. The revision is as follows:

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), approved in 2012 to increase oxygen production to displace oxygen currently supplied by outside sources, consisting of:

(1) One (1) natural gas-fired boiler identified as ID No. 1, constructed in 1989, with a heat input capacity of ~~9~~ **7** MMBtu per hour, with emissions uncontrolled, and exhausting to stack S-36. This boiler uses propane as a backup fuel.

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~~ **7** 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~~ **7** 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~~ **7.0** 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.

Comment 9:

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

Nucor requests that IDEM replace the term “quench system” with the term “quench/descale system” to more accurately reflect the description of the process.

IDEM Response 9:

SECTION D.29 has been revised as requested.

(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. Approved in 2012 to add a quench**/descale** system at both Meltshop Continuous Casters. The air flow rate from the existing caster steam vent, stack S-11 will increased by approximately 30,000 cubic feet per minute (cfm).

Comment 10:

D.31.5 – FACILITY OPERATION CONDITIONS - Steel Technologies Operations – Testing Requirements:

Nucor requests that IDEM replace the testing frequency of "2.5 years" with "5 years," which was previously agreed upon with IDEM, and stated later in the condition and on page 71 of the TSD.

IDEM Response 10:

The Leveler Straightener Baghouse AC-01 (D.31) has been required in Significant Source Modification No. 107-27300 to be tested once every five (5) years from the most recent stack test, instead of every 2.5 years, since it is a small baghouse, Therefore, Condition D.31.5 has been revised to reflect the original testing frequency. The revision is as follows:

D.31.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Within ~~2.5~~ **five (5)** years after the most recent valid compliance demonstration, the Permittee shall perform PM and PM10 testing on baghouse AC-01 associated with the Leveler/ Straightener to demonstrate compliance with the limits in Condition D.31.2, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every 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. PM10 includes filterable and condensable PM.

Comment 11:

E.4 – **FACILITY OPERATION CONDITIONS - Emergency Generators**:

Nucor requests that IDEM revise the language in NESHAP, Subpart ZZZZ RICE for Generators #1, #2 and #4 (collectively, "Generators") to more accurately reflect the regulation that applies to them. As noted in prior comments the Generators are all over 500HP and constructed prior to 2002. §63.6590(a)(1)(iii) states a RICE is an *existing source* when: "For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002." Pursuant to this, the Generators are all considered *existing sources*.

§63.6590(b)(3) goes on to state that: "The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements: (iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;"

Based on this, it must be established that the Generators are *emergency* in addition to being existing. The definitions section 63.6675 states:

"Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not

considered to be emergency engines, except as permitted under §63.6640(f). *All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE.* If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart."

Because the Generators are greater than 500 HP, to demonstrate that the Generators are *emergency* generators, §63.6640(f)(2) requires compliance with (f)(2)(i) through (f)(2)(iii). Once it is demonstrated that the Generators are both *existing* and *emergency*, then the requirements revert back to §63.6590(b)(3), which exempts these generators from all other Subpart ZZZZ and Subpart A requirements.

Nucor asks that the language be made specific enough to prevent confusion in complying with applicable requirements. Nucor requests that the Permit Condition E.4.3 applicable regulations be changed to read: 40 CFR §§ 63.6590(a)(1)(i), 63.6590(b)(3)(iii), 63.6640(f)(2)(i) - (iii), and 63.6675.

Additionally, Nucor requests that minor changes be made to Permit Condition E.4.2. First, the date should be changed to **May 3, 2013** (instead of May 2013). Second, the reference to #8 63.6655(b) should be removed as there are no CEMS or CPMS employed on this unit. Third, #9 Table 2d applies to Area Sources, Nucor is a major source. Fourth, #10 Table 2c should also include footnote 2 in addition to footnote 1.

IDEM Response 11:

The second paragraph of the TSD for NESHAP, Subpart ZZZZ applicability, where it states that the emergency generators (GEN#1, 2 and 4) are "equal to or less than 500 brake HP", is a typographical error; it should state "greater than 500 HP". However, the requirements under this NESHAP were applied correctly and are reflected in Condition E.4.3 of the proposed permit for generators (GEN#1, 2 and 4) which are greater than 500 HP and constructed prior to December 19, 2002.

IDEM, OAQ revised Condition E.4.3 to specify the exact rule cites that are applicable to Generators #1, #2 and #4, as follows:

E.4.3 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Enginer [40 CFR Part 63, Subpart ZZZZ- Emission Units > 500 HP capacities constructed before December 19, 2002]

Pursuant to 40 CFR Part 63, Subpart ZZZZ, the following existing stationary engines with > 500 HP capacities constructed before December 19, 2002 shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ:

Emergency Generators/ID	**Capacity (HP)**
Hot Mill NC Cooling Tower generator, identified as GEN #1,	2,100
Galv Line Pot generator, identified as GEN #4	890
MS Cooling Tower Cold Well generator, identified as GEN #2	2,520

(1) 40 CFR § 63.6580
(2) 40 CFR § 63.6585
(3) 40 CFR § 63.6590**(a)(1)(i), (b)(3)(iii)**
(4) 40 CFR § 63.6640(f)**(2)(i) through (iii)**
(5) 40 CFR § 63.6675

Likewise, Condition E.4.2 has been revised as follows:

E.4.2 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ - Emission Units ≤ 500 HP Capacity, constructed before June 12, 2006]

Pursuant to 40 CFR Part 63, Subpart ZZZZ, the Cold Mill generator, identified as GEN #3 with capacity ≤ 500 HP, constructed before June 12, 2006 shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ no later than May **3,** 2013:

(1) 40 CFR § 63.6580
(2) 40 CFR § 63.6585
(3) 40 CFR § 63.6590
(4) 40 CFR § 63.6602
(5) 40 CFR § 63.6625(e)(2), (f), (h), (i),
(6) 40 CFR § 63.6605(a), (b)
(7) 40 CFR § 63.6640(a), (b), (e), (f)
(8) 40 CFR § 63.6655(a), ~~(b),~~ (d), (e), (f)
~~(9) Reporting Requirements: Footnote 2 of Table 2d to Subpart ZZZZ of Part 63~~
(~~10~~ **9**) Table 2c to Subpart ZZZZ of Part 63, ~~and~~ footnote 1 of Table 2c **and footnote 2 of Table 2c**
(~~11~~ **10**) Table 6 to Subpart ZZZZ of Part 63
(~~12~~ **11**) Table 8 to Subpart ZZZZ of Part 63

Comment 12:

E.5 – FACILITY OPERATION CONDITIONS - Boilers:

On February 7, 2012, EPA issued a No Action Assurance Letter to establish that EPA will not pursue enforcement action for notification deadline violations under the current Major Source Boiler MACT (76 Fed. Reg. 15608 (March 21, 2011)) until December 31, 2012 or the effective date of a final rule addressing the proposed reconsideration of the Major Source Boiler MACT, whichever occurs earlier. Nucor requests that IDEM provide the same assurances as EPA that it will not pursue enforcement for any notification deadline violations during the same timeframe.

Additionally, as EPA is in the process of revising the existing rule, it is unclear at this time if any specific provision and/or associated regulatory citation that currently applies to Nucor under the existing Major Source Boiler MACT will be changed. Therefore, Nucor requests that IDEM note that this section may need to be administratively reopened upon EPA's issuance of its revised final rule should the final MACT standard change. This notice will allow IDEM inspectors, Nucor, and the public to be aware that the permit may not reflect governing law until reopening should EPA adopt its pending revisions.

IDEM Response 12:

On March 21, 2011, U.S. EPA issued the final rule for 40 CFR, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters at major sources. On May 18, 2011, the EPA published a notice delaying the effective date of the boiler major source rule (Boiler MACT) until the completion of the reconsideration or the completion of the litigation of the rule, whichever is earlier. However, on January 9, 2012, the U.S. District Court for the DC Circuit vacated the EPA's May 18, 2011, notice that delayed the effective date of the boiler MACT rule. Based upon this, NESHAP, Subpart DDDDD is an effective rule, and therefore, major sources must comply with its requirements.

Although EPA issued a "No Action Assurance Letter" that it will exercise its enforcement discretion to not pursue enforcement action for violations of certain notification deadlines in the final Boiler MACT, IDEM, OAQ, Permits cannot include similar enforcement discretion in the permit because this is not a permitting issue but rather a Compliance and Enforcement Branch decision.

Condition E.5.3 already requires that Nucor must submit a significant permit modification application no later than June 21, 2013 to incorporate into the Part 70 Permit the applicable requirements of 40 CFR 63, Subpart DDDDD. Therefore, no changes have been made to Section E.5 as a result of this comment.

TECHNICAL SUPPORT DOCUMENT COMMENTS

Comment 1:

TSD – D.8 (page 6):

Please reflect the requested changes above in D.8., specifically, change all references of 9 MMBtu/hr to 7 MMBtu/hr.

Comment 2:

TSD – D.29(qq) (page 26):

Nucor requests that IDEM replace the term “quench system” with the term “quench/descale system” to more accurately reflect the description of the process.

Comment 3:

TSD – D.4.10 (page 33):

Please reflect the requested changes above in D.4.10 - in the sentence “1 and 10 inches of water *until* a range is established…” Nucor requests that IDEM change the word “until” to “or” as stated in the previous permit.

Comment 4:

TSD – D.16 (page 35):

Conditions D.16.8 and D.17.5 in the TSD states “until a range is established during the latest stack test.” Nucor requests that IDEM use the original language that is reflected in the following Conditions D.16.8 and D.17.5 and likewise reflected in the draft permit, which is more accurate, and permits the range for pressure drop from 1-10 inches.

D.16.8 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Cold Reversing Mill, EU-09, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 to 10.0 inches of water, 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 condition. 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.

D.17.5 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Reversing and Tempering (R/T) Mill, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 and 10.0 inches of water, 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 condition. 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.

Comment 5:

TSD – E.5 (page 40): Please reflect the requested changes in the permit above in Section E.5.

Comment 6:

TSD – D.1 (page 70): Nucor requests that IDEM remove the testing frequency of 2.5 years for the Vacuum Degasser on the table of Existing Emission Units.

IDEM Response:

IDEM, OAQ prefers not to change the TSD in order to preserve the original document as it was presented at public notice. Therefore, the above comments have been considered and noted in this addendum to the Technical Support Document.

IDEM Response 4:

Conditions D.16.8 and D.17.5 in the draft permit were overlooked to match the language in the TSD. Therefore, Conditions D.16.8 and D.17.5 in the permit have been revised to reflect the TSD language as follows:

D.16.8 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Cold Reversing Mill, EU-09, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 to 10.0 inches of water **until a range is 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 condition. 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.

D.17.5 Mist Eliminator Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Reversing and Tempering (R/T) Mill, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 and 10.0 inches of water **until a range is 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 condition. 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.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification and a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Nucor Steel
Source Location:	4537 South Nucor Road, Crawfordsville, IN 47933
County:	Montgomery
SIC Code:	3312
Operation Permit No.:	T107-7172-00038
Operation Permit Issuance Date:	December 29, 2006
Significant Source Modification No.:	107-31415-00038
Part 70 Operating Permit Renewal:	107-30293-00038
Permit Reviewer:	Aida DeGuzman

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Nucor Steel relating to the operation of a stationary steel mini-mill. On March 1, 2011 Nucor Steel submitted an application to the OAQ requesting to renew its operating permit. Nucor Steel was issued its initial Part 70 Operating Permit Renewal (T107-7172-00038) on December 29, 2006.

On January 27, 2012, Nucor submitted another application to modify the source.

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) Steel Technologies – Plant ID 107-00046, 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.

IDEM has determined that Nucor Steel and each of the on-site contractors are still under the common control of Nucor Corporation. Nucor Steel is a division of Nucor Corporation. These plants are considered one major source, as defined by 326 IAC 2-7-1(22), based on this contractual control. Therefore, the term “source” in the Part 70 documents refers to both Nucor Steel and the on-site contractors as one source. This conclusion was initially determined under Part 70 Operating Permit (T107-7172-00038) on December 29, 2006.

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

Existing Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

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

(a) 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

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) 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.

(g) 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.

(h) 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

(a) 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

(a) 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.

(b) 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.

(c) 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.

(d) 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

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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

(a) 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

(b) 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.

(c) 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.

(d) 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

(a) 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

(a) 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

(a) 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

(a) 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)**

(a) 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.

(b) 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.

(c) One (1) natural gas-fired Steel Technologies 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**

(a) 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**

(a) 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**

(a) 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).

(b) 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

(a) 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 grain/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

(a) 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.

(b) 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. Emissions are uncontrolled and exhausting outside the building. The burner is natural gas fired and uses 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.

(c) 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

(a) 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 Graininders. Parts of the Hot Mill Strip are controlled by water roll cooling.

(b) 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

(a) 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

(a) 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.

(b) 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.

(c) 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

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) 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.

(2) Ladle Dryer, identified as LDS #1, constructed in 1989 and approved in 2011 for replacement, 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.

(3) One (1) natural gas-fired Ladle Dryer, identified as LDS #1a, approved for construction in 2007 and approved in 2011 for replacement, with a heat input capacity of 5 MMBtu per hour, using propane as a backup fuel. with uncontrolled emissions exhausting to stack S-12.

(4) 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.

(5) 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.

(6) 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.

(7) 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.

(8) 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.

(9) 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)).

(10) 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.

(11) Two (2) natural gas-fired Ladle Warmer Burners, identified as LWB #1 and LWB #2, approved in 2011 for construction, each with a maximum heat input capacity of 3 MMBtu/hr to warm ladles at the Melt Shop.

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

D.31 – Steel Technologies 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.

D.33 - Direct Reduced Iron (DRI) Handling System

(a) Rail Unload Hopper, identified as HP1, approved in 2011 for construction, with a designed capacity of 400 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(b) Vibratory Screening Feeder, identified as VF1, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(c) Rail Unload Fines Drag Conveyor, identified as DC1, approved in 2011 for construction, with a designed capacity of 10 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(d) Rail Unload Fines Bagging Station, identified as BS1, approved in 2011 for construction, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS1 Hopper, identified as HP2, with a designed capacity of 4 tons.

(2) BS1 Bagging Screw, identified as SC5, with a designed capacity of 15 tons per hour.

(e) Rail Unload Bucket Elevator, identified as BE1, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(f) Two (2) Recirculating Conveyors, identified as SC1 and SC2, approved in 2011 for construction, with a designed capacity of 25 tons per hour each, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(g) Discharge Diverter, identified as DV1, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(h) Hot Material Discharge Chute, identified as CH1, approved in 2011 for construction, with a designed capacity of 250 tons per hour, exhausting uncontrolled to the atmosphere.

(i) Rail Unload Belt Conveyor, identified as BC1, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(j) Discharge Diverter, identified as DV2, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(k) Silo Loading Belt Conveyor, identified as BC2, approved in 2011 for construction, with a designed capacity of 250 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(l) Iron Carbide Silo, identified as ICS1, constructed in 1994 and approved in 2011 for modification, with a designed capacity of 250 tons per hour and a designed storage capacity of 3585 tons, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(m) Vibratory Screening Feeder, identified as VF2, approved in 2011 for construction, with a designed capacity of 130 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(n) Silo Fines Bagging Station, identified as BS2, approved in 2011 for construction, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly, including the following:

(1) BS2 Hopper, identified as HP3, with a designed capacity of 4 tons.

(2) BS2 Bagging Screw, identified as SC6, with a designed capacity of 4 tons per hour.

(o) Silo Bucket Elevator, identified as BE2, approved in 2011 for construction, with a designed capacity of 130 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(p) Two (2) Recirculating Conveyors, identified as SC3 and SC4, approved in 2011 for construction, with a designed capacity of 13 tons per hour each, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(q) Discharge Diverter, identified as DV3, approved in 2011 for construction, with a designed capacity of 130 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(r) Hot Material Discharge Chute, identified as CH2, approved in 2011 for construction, with a designed capacity of 130 tons per hour, exhausting uncontrolled to the atmosphere.

(s) Silo Unloading Belt Conveyor, identified as BC3, approved in 2011 for construction, with a designed capacity of 130 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(t) Day Bin, identified as DB1, approved in 2011 for construction, with a designed capacity of 250 tons per hour and a designed storage capacity of 200 tons, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(u) Weigh Belt Feeder, identified as WB1, approved in 2011 for construction, with a designed capacity of 225 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(v) South Scrap Bay Belt Conveyor, identified as BC4, approved in 2011 for construction, with a designed capacity of 225 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(w) South Furnace Belt Conveyor, identified as BC10, constructed in 2005 and approved in 2011 for modification, with a designed capacity of 259 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(x) Weigh Belt Feeder, identified as WB2, approved in 2011 for construction, with a designed capacity of 225 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(y) North Scrap Bay Belt Conveyor, identified as BC5, approved in 2011 for construction, with a designed capacity of 225 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(z) Belt Conveyor, identified as BC7, constructed in 2005 and approved in 2011 for modification, with a designed capacity of 259 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

(aa) North Furnace Belt Conveyor, identified as BC9, constructed in 2005 and approved in 2011 for modification, with a designed capacity of 259 tons per hour, using cyclone CY1 and subsequently Meltshop Baghouse1 or Meltshop Baghouse2 as control, exhausting to stack BH1 or BH2 accordingly.

Insignificant Activities

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) Lime Silo (#1 SEAF).

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

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

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

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

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

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

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

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

(15) 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):

(a) 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.

(b) 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.

(c) 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

(a) 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):

(a) 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

(a) 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 Steel Technologies 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):

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

D.23 – INSIGNIFICANT ACTIVITIES – WELDING

(a) 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.

(b) 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):

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

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

D.27 – INSIGNIFICANT ACTIVITIES – DEGREASING

(a) 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

(a) 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.

INSIGNIFICANT ACTIVITIES – STORM WATER TREATMENT

(a) Activities with emissions equal to or less than the thresholds provided in 326 IAC 2-7-1(21) consisting of: Carbon dioxide (CO_2) injection of storm water runoff for control of pH

There are no applicable requirements for these insignificant activities.

Existing Approvals

The source submitted an application for a Part 70 Operating Permit Renewal on March 1, 2011. At this time, this application is still under review. The source is operating under the following approvals:

(a) First Administrative Amendment No. 107-24009-00038, issued on January 26, 2007;

(b) Significant Source Modification No. 107-24187-00038, issued on June 19, 2007;

(c) First Significant Permit Modification No. 107-24022-00038, issued April 20, 2007;

(d) Second Significant Permit Modification No. 107-24284-00038, issued August 8, 2007;

(e) PSD/Significant Source Modification No. 107-24348-00038, issued on December 3, 2007;

(f) Third Significant Permit Modification No. 107-24699-00038, issued on January 22, 2008;

(g) Second Administrative Amendment No. 107-26116-00038, issued on April 4, 2008;

(h) Third Administrative Amendment No.: 107-26849-00038, issued on October 10, 2008;

(i) Fourth Administrative Amendment No.: 107-26819-00038, issued on October 10, 2008;

(j) Significant Source Modification No. 107-27300-00038, issued on April3 0, 2009;

(k) Fourth Significant Permit Modification No. 107-27427-00038, issued on May 19, 2009;

(l) PSD/Significant Source Modification No. 107-26591-00038, issued on February 8, 2010;

(m) Fifth Significant Permit Modification No. 107-26659-00039, issued on February 22, 2010;

(n) Significant Source Modification No. 107-29766-00038, issued on April 4, 2010;

(o) Significant Source Modification No. 107-29010-00038, issued on June 25, 2010;

(p) Sixth Significant Permit Modification No. 107-29064-00039, issued on July 13, 2010;

(q) Fifth Administrative Amendment No.: 107-29433-00038, issued on September 17, 2010;

(r) Seventh Significant Permit Modification No. 107-29903-00039, issued on April 21, 2011;

(s) Sixth Administrative Amendment No. 107-30459-00039, issued on May 27, 2011;

(t) Review Request No. 107-30827-00038, issued on August 29, 2011;

(u) Eighth Significant Permit Modification No. 107-30741-00039, issued on October 28, 2011;

(v) Seventh Administrative Amendment No. 107-31035-00039, issued on November 2, 2011;

(w) Eight Administrative Amendment No. 107-31076-00039, issued on December 19, 2011;

(x) Significant Source Modification No. 107-30886-00038, issued on January 27, 2012; and

(y) Ninth Significant Permit Modification No. 107-30895-00038, issued on February 14, 2012.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending for the source.

Emission Calculations

Proposed New Emission Units in SSM No. 107-31415-00038 - See Appendix A of this document for detailed emission calculations.

TV Renewal PTE **-** See Appendix B of this document for detailed emission calculations.

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. 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. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions. These rules became effective on July 15, 2008. On May 4, 2011, the air pollution control board issued an emergency rule establishing the direct PM2.5 significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM2.5 and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(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)).

Fugitive Emissions

(a) Fugitive Emissions
Since this source is classified as a steel mini mill, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	102,910
PM10	102,910

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM2.5	233,702
SO_2	1,002
VOC	455
CO	6,553
NO_x	1,821
GHGs as CO_2e	449,116
Single HAP	>10
Total HAP	>25

Appendix B of this TSD reflects the unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, SO2, VOC, CO and NOx is each equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHG is equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent (CO_2e) emissions per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

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 January 27, 2012 for the following activities:

(a) Replace existing burners on the 2 tunnel furnaces. Each tunnel furnace heat input will be reduced from 84 million British thermal units per hour (MMBtu/hr) to 50 MMBtu/hr.

(b) Relocation of the existing lime silo (SAS #1) used for the Castrip to keep the lime dry.

(1) One (1) pneumatic conveying of lime into the silo, SAS #1, with maximum loading rate of 25 tons per hour, controlled by a bin vent filter with air flow rate of 1,200 dry standard cubic foot per minute (dscfm) and outlet grain loading of 0.01 grain/dscf, exhausting to the Castrip building.

(2) One (1) lime silo screw auger, which conveys lime into an existing hopper at a maximum loading rate of 40 tons per hour, located inside a totally enclosed building. Particulate emissions collected from this totally enclosed building is vented back into the lime silo, SAS #1 to be controlled by the bin vent filter.

The truck dumping station (AU-1, constructed in 2002) will still be used for alloys, raw materials, and a backup for lime unloading.

(c) Linde Gases, LLC, which supplies oxygen to the steel mill, is increasing the oxygen production capacity at its plant located on Nucor's property. The increase in capacity will eliminate the number of trucks delivering liquid oxygen from outside sources to Linde plant to meet Nucor's oxygen demand. The increase in oxygen production will not result in an increase in Nucor's steel production because it is displacing oxygen that is currently supplied by trucks.

The increase in the oxygen production will require an increase in utilization from the existing Linde Boilers (No. 1 and No.2), including the construction of the following:

(1) One (1) new cooling tower with a capacity of 1,840 gallons per minute.

(d) Construction of a new pinch roll/flattener for pickling heavy gauge steel and high carbon steel products.

Existing equipment is not capable of handling heavy gauge steel.

(e) One (1) new Cleaner with a mist eliminator for the Leveler/Straightener, with four (4) natural gas-fired burners at maximum total heat input rate of 14 MMBtu/hr at Steel Technologies. Note: The steel does not have oil and the cleaner will use hot water only.

(f) Addition of a new quench system at both casters for quality control. This will involve spraying the steel slab with water. An increase in the actual water circulation rate of 1,400 gallon per minute (gpm) will result due to the caster quench at the existing Meltshop Caster cooling tower but will not increase its permitted capacity of 10,000 gpm. The air flow rate from the existing caster steam vent will be increased by approximately 30,000 cubic feet per minute (cfm).

Source 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."

New Emission Units	
Pollutant	**Potential To Emit (tons/year)**
PM	24.91
PM10	25.25
SO_2	0.04

New Emission Units	
Pollutant	**Potential To Emit (tons/year)**
VOC	0.3
CO	5.0
NO_x	6.0

HAPs	Potential To Emit (tons/year)
Single HAP (Hexane)	0.108
Total Combined HAPs	0.114

Modified/Increase Utilization Existing Emission Units			
Pollutant	**PTE Before Modification (tons/year)**	**PTE After Modification (tons/year)**	**PTE Net Increase (tons/year)**
PM	121.93	131.37	9.44
PM10	126.32	134.09	7.77
SO_2	0.49	0.31	0.0
VOC	4.49	2.88	0.0
CO	68.53	44.01	0.0
NO_X	81.59	70.77	0.0
Single HAP (HCl)	3.9	3.9	0.0
Total Combined HAPs	5.4	4.89	0.0

Pollutant	PTE New Emission Units (tons/year)	Net Increase to PTE of Modified/Increase Utilization Emission Units (tons/year)	Total PTE for New and Modified/Increase Utilization Units (tons/year)
PM	24.91	9.44	34.35
PM10	25.25	7.77	33.02
SO_2	0.04	(0.18)	0.0
VOC	0.3	(1.61)	0.0
CO	5.0	(24.53)	0.0
NO_X	6.0	(10.82)	0.0
GHG (CO2e)	7,258	(35,147)	0.0
Single HAP (Hexane)	0.108	0.0	0.108 (Hexane)
Total Combined HAPs	0.114	0.0	0.114

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. Additionally, 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. However, the permit modification will be incorporated through the Part 70 Operating Permit Renewal

Source Modification 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.

	PM	PM10	PM2.5	VOC	CO	SO2	NOx	GHG (CO2e)
Lime Pneumatic Conveying into Silo (Bin Vents Filter)	0.04	0.04	0.04	-	-	-	-	-
Silo Screw Auger to Existing Silo Conveyor #1	2.6	2.6	2.6	-	-	-	-	-
New Cooling Tower (Linde Plant)	0.464	0.464	0.464	-	-	-	-	-
Steel Tech Burners-Cleaner	0.46	0.81	0.81	0.3	5.0	0.0	6.0	7,258
TOTAL PTE NEW UNITS	**3.57**	**3.92**	**3.92**	**0.3**	**5.0**	**0.0**	**6.0**	**7,258**
ACTUAL TO PTE (ATP) TEST MODIFIED AND INCREASED UTILIZATION								
BASELINE ACTUAL EMISSIONS								
Tunnel Furnaces 1 and 2	0.90	3.60	3.60	2.61	39.80	0.28	67.67	57,208
Linde Boilers 1 and 2	0.02	0.08	0.08	0.52	0.84	0.01	1.00	1,207
Caster Water Quench Steam Vent	9.99	9.99	9.99	-	-	-	-	-
Pinch Roller/Flattener for Pickle Line 2	1.45	1.45	1.63	-	-	-	-	-
TOTAL BASELINE	**12.36**	**15.12**	**15.30**	**3.13**	**40.64**	**0.29**	**68.67**	**58,415**
POTENTIAL TO EMIT FROM MODIFED/INCREASED UTILIZATION								
Tunnel Furnaces 1 and 2	0.82	3.26	3.26	2.36	36.07	0.26	61.32	51,686
Linde Boilers 1 and 2	0.2	0.5	0.5	0.5	7.9	0.1	9.4	11,358
Caster Water Quench Steam Vent	13.7	13.7	13.7	-	-	-	-	-
Pinch Roller/Flattener for Pickle Line 2	3.50	3.50	3.50	-	-	-	-	-
TOTAL PTE	**18.19**	**20.91**	**20.91**	**2.88**	**44.01**	**0.31**	**70.77**	**63,045**
EMISSIONS INCREASE (ATP)	**5.82**	**5.79**	**5.61**	**-0.24**	**3.36**	**0.02**	**2.10**	**4,629**
TOTAL EMISSIONS INCREASE FROM PROJECT (HYBRID TEST)	**9.4**	**9.7**	**9.5**	**0.09**	**8.41**	**0.06**	**8.11**	**11,887**
PSD Significant Threshold	**25**	**15**	**10**	**40**	**100**	**40**	**40**	**75,000**

TSD for Part 70 Operating Permit Renewal No.T107-30293-00038

(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 including emissions from modified and increased utilization from existing emission units are greater than the PSD significant levels and thus require a minor limit to be considered a minor project.

Making the control for the screw auger federally enforceable will be enough to keep the project minor for PSD. Therefore, the screw auger will be limited as follows:

(1) PM10 and PM2.5 PSD Minor Limits [326 IAC 2-2
In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the PM10 and PM2.5 emissions from the screw auger shall each be limited to 0.495 pound per hour. Compliance with this limit shall keep the PM10 and PM2.5 emissions from emission units permitted in SSM 107-31415 below 15 tons per year and 10 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.

Potential to Emit After Issuance

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
Process/Facility	PM/ Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	GHGs (CO2e) (ton/yr)	Single HAP Emissions (tons/year)	Combined HAPs Emissions (tons/yr)
D.1 - Vaccum Degasser	0.20	0.20	0.20	26.02	88.70	5.91	5.91			-
D.2 - Castrip -Low NOx Boiler	2.4	2.4	2.4	0.2	19	0.8	31.1		0.56 (hexane)	1.60E-04
D.3 - Tundish Preheaters (TP-1 TP-2)	0.7	0.7	0.7	0.053	7.4	0.5	8.8		0.48 (hexane)	4.38E-05
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)	0.1	0.1	0.1	0	1.5	0.1	1.8			8.70E-06
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)	1.2	1.2	1.2	0.095	13.2	0.9	15.8	449,116		7.88E-05

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
Process/Facility	PM/ Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	GHGs (CO2e) (ton/yr)	Single HAP Emissions (tons/year)	Combined HAPs Emissions (tons/yr)
D.3 - Tundish Dryers (TD-1, TD-2, TD-3)	0.3	0.3	0.3	0	2.9	0.2	3.5			2.00E-06
D.3 - Transition Piece Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TPD-2)	0.1	0.1	0.1	0	1.6	0.1	1.9			1.070E-06
D.4 - Castrip - LMS, Continuous Strip Caster (D.4)	13.5	13.5	39.0	248.3	166.7	106.4	224.7		0.6 (lead)	0.6
D.5 - Injection Carbon Silo #1	0.5	0.5	0.5	-	-	-	-			-
D.8 - Linde Gases Boilers	1.1	1.1	1.1	0.089	12.5	0.82	17.5			-
D.15 - Pickle Line 1	3.50	3.50	3.50	-	-	-	-			-
D.15 - Pickle Line 2	2.71	2.71	2.71	-	-	-	-			-
D.16 - Cold Reversing Mill	31.54	31.54	31.5	-	-	65.7	-			-
D.16 - Cold Mill Boiler	0.45	0.45	0.45	0.089	5.2	0.4	29.8			0.28
D.19 - Annealing Furnace	3.04	3.04	3.04	0.240	33.6	2.2	40.0			0.75
D.21 Acid Regen Burners	0.37	0.37	0.37	0.029	4.1	0.3	4.9			0.093
D.22 - Cold Mill Burners	2.68	2.68	2.68	0.211	29.62	1.94	26.3			0.665
D.25 - Tunnel and Shuttle Furnaces	6.57	6.57	6.57	0.526	73.6	4.8	153.8			1.640
D.26 - Hot Strip Annealing Furnace	0.97	0.97	0.97	0.076	10.67	0.70	12.45			0.24

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
Process/Facility	PM/ Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	GHGs (CO2e) (ton/yr)	Single HAP Emissions (tons/year)	Combined HAPs Emissions (tons/yr)
D.29 - Meltshop Operations	138.0	138.0	308.7	725.6	4397.5	197.9	769.6		1.1 (lead)	1.1
SSM 107-31415-00038	9.0	9.4	9.2	0.06	8.41	0.09	8.11	11,887	0.108 (Hexane)	0.114
Sourcewide PTE	**251**	**251**	**438**	**1,001.59**	**4,876.15**	**455.47**	**1,354.63**	**461,003**	**1.7 (lead)**	**5.37**
Title V Major Source Threshold	**N/A**	**100**	**100**	**100**	**100**	**100**	**100**	**100,000 CO2e**	**10**	**25**
PSD Major Source Threshold	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100,000 Co2e**	**N/A**	**N/A**

(a) This existing stationary source is major for PSD because the emissions of at least one criteria pollutant are greater than one hundred (>100) tons per year, emissions of GHG are equal to or greater than one hundred thousand (>100,000) tons of CO_2 equivalent emissions (CO_2e) per year, and it is in one of the twenty-eight (28) listed source categories.

Federal Rule Applicability

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the 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.

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The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM:

CAM FOR PM/PM10							
Emission Unit / Pollutant	**Control Device Used**	**Emission Limitation (Y/N)**	**PM/PM10 Uncontrolled PTE (tons/year)**	**PM/PM10 Controlled PTE (tons/year)**	**Major Source Threshold (tons/year)**	**CAM Applicable (Y/N)**	**Large Unit (Y/N)**
D.4 Castrip - LMS, Continuous Strip Caster	Baghouse	Y	9,010.3	13.5	100	Y	N
D.5 - Injection Carbon Silo #1	Bin Vent	Y	90.0	0.45	100	N	-
D.5 Lime Silos (5) and Carbon Silos (3)	Bin Vent	Y	60 each silo	0.45 each silo	100	N	-
D.15 - Pickle Line 1	Scrubber and Mist Eliminator	Y	350	3.5	100	Y	N
D.15 - Pickle Line 2	Scrubber and Mist Eliminator	Y	116.7	3.5	100	Y	N
D.16 - Cold Reversing Mill	Mist Eliminator	Y	630.8	31.54	100	Y	N
D.17 - Cold Mill - Reversing and Tempering (R/T) Mill	Mist Eliminator	Y	630.8	31.54	100	Y	N
D.29- Meltshop	Baghouse	Y	92,000	138	100	Y	Y

Notes: Only emission units with uncontrolled PTEs closer to the major source levels have been included in the above CAM table for PM/PM10. All the other emission units not included have PTEs that are less than 10 tons/year each.

D.4 Castrip LMS, and D.29 Meltshop emit metal HAPs (lead, beryllium, fluorides, mercury) as part of PM/PM10 and are controlled by the baghouses.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM for PM/PM10 are applicable to Castrip - LMS, Continuous Strip Caster (D.4), Pickle Lines 1 and 2 (D.15), Cold Reversing Mill (D.16), Cold Mill - Reversing and Tempering (R/T) Mill (D.17) and Meltshop (D.29) for PM/PM10. The Meltsop operation (D.29), which is a large unit has its CAM Plan already incorporated in Section D.29.

Although pickle line 1 and Pickle Line 2 are subject to NESHAP, 40 CFR Part 63, Subpart CCC - National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants, that was promulgated on September 18, 1997, which is after November 15, 1990, they will not be exempted from being subject to CAM because NESHAP, Subpart CCC does not regulate PM/PM10.

The PM/PM10 CAM plan for the following emission units is as follows:

Section D.4: Castrip - LMS, Continuous Strip Caster

Visible Emissions Notations

(1) 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.

(2) 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.

(3) 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.

(4) 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.

(5) 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.

Baghouse Parametric Monitoring

(1) 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 until a range is 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 condition. 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 at least once annually.

(2) 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from 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 or replaced at least once annually.

Broken or Failed Bag Detection

(1) 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).

(2) 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.

Section D.15: Pickle Lines 1 and 2

(1) 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 C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

Parametric Monitoring for Scrubbers

The Permittee shall record the pressure drop, scrubber recirculating water flow rate and fresh water make up flow into PL1 scrubber used in conjunction with Pickle Line 1; and pressure drop, and fresh water make up flow into PL2 scrubber used in conjunction with Pickle Line 2 at least once per day when each pickle line is in operation. When for any one reading each parametric range or the minimum operating parameter for the PL1 scrubber and PL2 scrubber are outside each normal range in the following table until each scrubber operating parameter and pressure drop range are re-established during the latest compliance stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit

Scrubber ID	Pressure Drop Range across the Scrubber (inches)	Minimum Flow Rate of Scrubber Recirculating Water Flow (gallons/minute)	Fresh Water Make up Flow into Scrubber (gallon/minute)
Pickle Line 1 Scrubber	2.8 - 4.8	110	1.0
Pickle Line 2 Scrubber	4.9 - 7.8	N/A	2.5

The instruments used for determining the pressure drop across the scrubbers, flow rate of the scrubbers recirculating water and flow rate of the fresh make up water into the scrubbers shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once annually.

D.16 Cold Reversing Mill

(1) Mist Eliminator Parametric Monitoring
The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Cold Reversing Mill, EU-09, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 to 10.0 inches of water until a range is 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 condition. 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.

D.17 Cold Mill -Reversing and Tempering (R/T) Mill

(1) Mist Eliminator Parametric Monitoring
The Permittee shall record the pressure drop across the Mist Eliminator used in conjunction with the Reversing and Tempering (R/T) Mill, at least once per day when the process is in operation. When for any one reading, the pressure drop across the Mist Eliminator is outside the normal range of 1.0 and 10.0 inches of water until a range is 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 condition. 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.

CAM FOR CO							
Emission Unit / Pollutant	**Control Device Used**	**Emission Limitation (Y/N)**	**CO Uncontrolled PTE (tons/year)**	**CO Controlled PTE (tons/year)**	**Major Source Threshold (tons/year)**	**CAM Applicable (Y/N)**	**Large Unit (Y/N)**
D.1 - Vacuum Degasser	Flare	Y	1,774	88.70	100	Y	**N**
D.4 - Castrip - LMS, Continuous Strip Caster	None	Y	166.7	166.7	100	N	**-**
D.29 - Meltshop	None	Y	4,397.5	4,397.5	100	N	**-**

Based on this evaluation, the requirements of 40 CFR Part 64, CAM for CO are applicable to D.1 - Vacuum Degasser.

The CO CAM plan for the Vacuum Degasser (D.1) is as follows:

Flare Operating Parameters

(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.

CAM FOR NOx							
Emission Unit / Pollutant	**Control Device Used**	**Emission Limitation (Y/N)**	**NOx Uncontrolled PTE (tons/year)**	**NOx Controlled PTE (tons/year)**	**Major Source Threshold (tons/year)**	**CAM Applicable (Y/N)**	**Large Unit (Y/N)**
D.4 Castrip - LMS, Continuous Strip Caster	None	Y	224.7	224.7	100	N	**-**
D.22 - Galvanizing Line	SCR/ SNCR	Y	499.3	25	100	Y	N
D.29 Meltshop	None	Y	769.6	769.6	100	N	**-**

Based on this evaluation, the requirements of 40 CFR Part 64, CAM for NOx are applicable to D.22 - Galvanizing Line.

The NOx emissions from the SCR/SNCR used in conjunction with the Galvanizing Line (D.22) is monitored continuously using NOx CEMS. Therefore, the NOx CEMS satisfies the requirements of CAM:

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(b) New Source Performance Standards (NSPS):

(1) 40 CFR Part 60, Subpart Dc - New Source Performance Standards for Small Industrial-Commercial-Institutional Steam.

(A) This rule applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100

million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). This rule applies to the following emission units:

D.2 – CASTRIP – LOW NOx BOILER ID No. 501, rated at 71.04 MMBtu/hr
D.8 - LINDE Gases Plant - Boiler ID No.2, rated at 15 MMBtu/hr
D.16 - Cold Mill - Steel technologies Boiler, rated at 10.9 MMBtu/hr

Nonapplicable portions of the NSPS will not be included in the permit. The following requirements shall apply to the above emission units:

40 CFR § 60.40c(a)
40 CFR § 60.41c
40 CFR § 60.48c(g)(1)

Pursuant to 40 CFR Part 60.48c(a), notification of the date of construction, anticipated start up, and actual start up of Boiler ID No. 501 shall be submitted as required by the rule. This notification has been submitted by the Permittee on November 12, 2004

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).

(B) D.16 - Cold Mill Boiler, identified as CMB #1 - This boiler is not subject to 40 CFR Part 60, Subpart Dc because it was constructed in 1988, which predates the applicability date June 9, 1989.

(2) 40 CFR Pat 60, Subpart AAa - New Source Performance Standards for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983. The provisions of this subpart are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust-handling systems. for which construction, modification, or reconstruction commenced after August 17, 1983. This rule applies to the following emission units:

Two (2) Meltshop Electric Arc Furnaces (EAFs), identified as EAF #1 and EAF #2, Argon oxygen decarburization (AOD) vessels, identified as AODs, and the EAF dust treatment facility, identified as DTF.

Nonapplicable portions of the NSPS will not be included in the permit. The following requirements shall apply to the above emission units:

40 CFR § 60.270a(a), (b)
40 CFR § 60.271a
40 CFR § 60.272a(a)(1) through (3), (b)
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.
40 CFR § 60.274a(a)(1), (2), (b) through (e), (h)(1) through (4)
40 CFR § 60.275a(a), (b)(1), (2), (c), (d), (e)(1) through (4), (f), (g), (h)(1) through (3), (i), (j)

40 CFR § 60.276a(a) through (e), (f)(1) through (5), (6)(i) through (iv), (7) through (22), (g), (h)(1) through (3)

(3) 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:

(A) 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

(B) 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.

(C) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

(D) Provisions not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

The diesel fired generator, TSP-3 in Section D.7 with power rating of 130 Brake Horsepower (BHP) approved for construction in 2011 and one (1) 425 brake horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5 in Section D.32 approved for construction in 2011 are not subject to 40 CFR Part 60, Subpart IIII, because they are not a stationary internal combustion engines. These engines meet the definition of nonroad engines under 40 CFR 1068.30. These engines may remain nonroad engines and not be subject to 40 CFR Part 60, Subpart IIII provided they continue to meet the following requirements:

(A) The one (1) diesel generator, TSP-3 and one (1) diesel generator, identified as BSBP-5 shall remain at a location for a period not to exceed twelve (12) consecutive months.

(B) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation

The following generators are not subject to 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because their construction dates predate the rule applicability construction date of July 11, 2005:

EMERGENCY GENERATORS

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

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

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

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

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

(4) 40 CFR Part 60, Subpart JJJJ - Standard of Performance for Stationary Spark Ignition Internal Combustion Engine.

The diesel fired generator, TSP-3 in Section D.7 with power rating of 130 Brake Horsepower (BHP) and one (1) 425 brake horsepower (BHP) diesel fuel-fired generator, identified as BSBP-5 in Section D.32 are not subject to 40 CFR Part 60, Subpart JJJJ, because they are not a stationary spark ignition internal combustion engines. These two generators are compression ignition (CI) engines.

(5) 40 CFR Part 60, Subpart Kb - New Source Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

The storage tanks, IDs GST #1, DST #1, DST #2, DST #3 and DST #4, all were built in 1988 and are located at the petroleum product storage area are not subject to the requirements of the New Source Performance Standards, 326 IAC 12 and 40 CFR Part 60 Subpart Kb because they each have a storage capacity less than 75 cubic meters (19,812 gallons).

(6) 40 CFR Part 60, Subpart Ka - New Source Performance Standards for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after May 18, 1978 and Prior to July 23, 1984.

The storage tanks, IDs GST #1, DST #1, DST #2, DST #3 and DST #4, are not subject to NSPS, Subpart Ka because these tanks were all built in 1988, which is after July 23, 1984.

(7) 40 CFR Part 60, Subpart K - New Source Performance Standards for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after June 11, 1973 and Prior to May 19, 1978.

The storage tanks, IDs GST #1, DST #1, DST #2, DST #3 and DST #4, are not subject to NSPS, Subpart K because these tanks were all built in 1988, which is after May 19, 1978.

(c) National Emissions Standards for Hazardous Air Pollutants (NESHAPs):

(1) 40 CFR Part 63, Subpart EEEEE (National Emission Standards for Hazardous Air Pollutants: Iron and Steel Foundries) was promulgated April 22, 2004. This source is not subject to the requirements of the rule because the source does not

meet the definition of an iron and steel foundry. The rule defines a foundry as "A facility or portion of a facility that melts scrap, ingot, and/or other forms of iron and/or steel and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce." The rule defines molds as molds composed of an aggregate and/or binder. Nucor Steel does not pour molten metal into molds composed of aggregate and/or binder and, therefore, does not meet the definition of an iron and steel foundry.

(2) 40 CFR Part 63, Subpart FFFFF (National Emission Standards for Hazardous Air Pollutants: Integrated Iron and Steel Manufacturing) was promulgated on May 20, 2003. Pursuant to 40 CFR 63.7782, this source is not subject to the requirements of the rule because it does not utilize a sinter plant, blast furnace, or basic oxygen process furnace shop.

(3) 40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.

D.2 – CASTRIP – LOW NOx BOILER ID No. 501, rated at 71.04 MMBtu/hr
D.8 - LINDE Gases Plant - Boiler ID No.1, rated at 7 MMBtu/hr, Boiler No. 2, rated at 15 MMBtu/hr, Hydrogen Plant Boiler rated at 9.98 MMBtu/hr and D.16 - Cold Mill - Steel Technologies Boiler, rated at 10.9 MMBtu/hr, CMB#1, rated at 34 MMBtu/hr are subject to 40 CFR Part 63, Subpart DDDDD.

(4) 40 CFR Part 63, Subpart CCC - National Emissions Standards for Hazardous Air Pollutants for Steel Pickling-HCl Process Facilities and Hydrochloric Acid Regeneration Plants. The provisions of this subpart apply to the following facilities and plants that are major sources for hazardous air pollutants (HAP) or are parts of facilities that are major sources for HAP:

(A) All new and existing steel pickling facilities that pickle carbon steel using hydrochloric acid solution that contains 6 percent or more by weight HCl and is at a temperature of 100 °F or higher; and

(B) All new and existing hydrochloric acid regeneration plants.

(C) The provisions of this subpart do not apply to facilities that pickle carbon steel without using hydrochloric acid, to facilities that pickle only specialty steel, or to acid regeneration plants that regenerate only acids other than hydrochloric acid.

For the purposes of implementing this subpart, the affected sources at a facility or plant subject to this subpart are as follows: Continuous and batch pickling lines, hydrochloric acid regeneration plants, and hydrochloric acid storage vessels.

The following emission units are subject to the provisions of40 CFR Part 63, Subpart CCC:

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.

(i) 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.

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

(1) 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.

(iii) 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.

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.

Nonapplicable portions of the NESHAP will not be included in the permit. The following requirements shall apply to the above emission units:

40 CFR § 63.1155(a)(1) through (3), (b), (c)
40 CFR § 63.1156
40 CFR § 63.1157(a)(1), (2), (b)(1) & (2)
40 CFR § 63.1159(a), (b)
40 CFR § 63.1160(a)(1), (b)(1). (2)(i) through (iii), (iv)(A) through (E), (v) through (vii), (3)(i) through (iii)
40 CFR § 63.1161 (a)(1) through (3), (b), (c)(1) & (2), (d)(i) through (v), (2)
40 CFR § 63.1162(a)(1) through (6), (b)(1) through (4), (c)
40 CFR § 63.1163(a)(2), (5), (d), (e),
40 CFR § 63.1164(a), (c)(1) through (3).
40 CFR § 63.1165 (a)(1) through (11), (b)(i) through (iii), (2), (3), (c)

40 CFR § 63.1166
Table 1 to Subpart CCC of Part 63– Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart CCC

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart CCC.

(5) 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines - This subpart applies to any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

The following generators are not subject to 40 CFR Part 63, Subpart ZZZZ, because they are not stationary internal combustion engines. These engines meet the definition of nonroad engines under 40 CFR 1068.30. These engines may remain nonroad engines and not be subject to 40 CFR Part 63, Subpart ZZZZ provided they continue to meet the following requirements:

(A) The one (1) diesel generator, TSP-3 in Section D.7 and one (1) diesel generator, identified as BSBP-5 in Section D.32 shall remain at a location for a period not to exceed twelve (12) consecutive months.

(B) For the purposes of this condition and pursuant to 40 CFR 1068.30 Nonroad Engine (2)(iii), a location is any single site at a building, structure, facility, or installation

The following existing generators at the source are considered existing stationary RICE with site ratings of less than or equal to 500 brake HP located at a major source with commencement of construction or reconstruction of the stationary RICE before June 12, 2006 and are subject to NESHAP, Subpart ZZZZ:

EMERGENCY GENERATORS

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

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

Nonapplicable portions of the NESHAP, Subpart ZZZZ will not be included in the permit. The following requirements shall apply to the emergency Cold Mill generator, identified as GEN #3:

40 CFR § 63.6580
40 CFR § 63.6585
40 CFR § 63.6590
40 CFR § 63.6602
40 CFR § 63.6625(e)(2), (f), (h), (i),
40 CFR § 63.6605(a), (b)
40 CFR § 63.6640(a), (b), (e), (f)
40 CFR § 63.6655(a), (b), (d), (e), (f)
Reporting Requirements: Footnote 2 of Table 2d to Subpart ZZZZ of Part 63
Table 2c to Subpart ZZZZ of Part 63 and footnote 1 of Table 2c
Table 6 to Subpart ZZZZ of Part 63

Table 8 to Subpart ZZZZ of Part 63

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZ.

The following existing generators at the source are considered existing stationary RICE with site ratings of equal to or less than 500 brake HP located at a major source with commencement of construction or reconstruction of the stationary RICE before December 19, 2002 and are subject to NESHAP, Subpart ZZZZ.

EMERGENCY GENERATORS

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

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

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

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

Nonapplicable portions of the NESHAP, Subpart ZZZZ will not be included in the permit. The following requirements shall apply to the above emergency units:

40 CFR § 63.6580
40 CFR § 63.6585
40 CFR § 63.6590
40 CFR § 63.6640(f)

(6) 40 CFR Part 63, Subpart T- National Emission Standards for Halogenated Solvent Cleaning

The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS No. 75–09–2), perchloroethylene (CAS No. 127–18–4), trichloroethylene (CAS No. 79–01–6), 1,1,1-trichloroethane (CAS No. 71–55–6), carbon tetrachloride (CAS No. 56–23–5) or chloroform (CAS No. 67–66–3), or any combination of these halogenated HAP solvents.

The requirements of this NESHAP are not included in this permit because the insignificant cold cleaner organic solvent degreasing operation does not utilize any of the halogenated HAP solvents listed in 40 CFR Part 63, Subpart T.

(7) 326 IAC 20-4 and 40 CFR 63, Subpart Q - National Emission Standards for Cooling Towers.

(8)

The requirements of this NESHAP are not included in this permit, because all the cooling towers located at the Meltshop, Hot Mill, Cold Mill, Vacuum Degasser Galvanizing/Annealing, Castrip and Linde Gases are not operated with chromium-based water treatment chemicals.

State Rule Applicability - Entire Source

(a) 326 IAC 1-6-3 (Preventive Maintenance Plan)

The source is subject to 326 IAC 1-6-3.

(b) 326 IAC 1-5-2 (Emergency Reduction Plans)

The source is subject to 326 IAC 1-5-2 and has submitted an Emergency Reduction Plan (ERP) on December 13, 1991.

(c) 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of VOC is greater than 250 tons per year, and each potential to emit of CO/NOx/SO2 is greater than 2,500 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted by July 1, 2012 and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

(d) 326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1) as follows:

(1) 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.

(2) 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.

(e) 326 IAC 6.5 PM Limitations Except Lake County

This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

(f) 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. From the initial start-up, Nucor Steel was a PSD major source.

<u>PSD (54) 1742, ISSUED APRIL 28, 1989</u>

Nucor was issued its initial permit, PSD permit (54)-1742-00038 on April 28, 1989. This PSD permit allowed for the construction of a steel mill designed to process approximately 1,400,000 tons per year of hot and cold rolled steel strip in coil form. Specifically, the approval permitted of the construction of two electric arc furnaces (EAF #1 and EAF #2), two furnace ladle metallurgical stations (EU-13), a continuous caster (CC #1), a vacuum degasser, a hot strip mill (HSM), a HCl pickle line (PL1), four natural gas-fired boilers (CMB #1 and the pickle line boilers), a cold reversing mill (EU-09), an acid regeneration system (EU-04), a roller hearth furnace (tunnel furnace #1), twenty four annealing

furnaces, a ladle dryout and ladle preheat stations (LDS #1 and LP #1-LP #4), a tundish dryer (TD #1) and preheater stations, bulk material handling facilities, and petroleum storage facilities (GST #1, DST #1, DST #2, DST #3, and DST #4). This construction was subject to the requirements of 326 IAC 2-2 because CO was emitted at 100 tons/year. All the other attainment pollutants were emitted at PSD significant levels.

PSD 107-2764-00038, ISSUED NOVEMBER 30, 1993

On November 30, 1993, Nucor was issued PSD permit 107-2764-00038 for a modification of the steel mill to increase steel production from 160 tons/hr to 260 tons/hr. As part of this modification, a second continuous caster (CC #2), a roller hearth furnace (tunnel furnace #2), and twelve annealing furnaces were added to the existing operation. This modification went through PSD review under 326 IAC 2-2 for PM, PM10, VOC, CO and NOx. This PSD 107-2764-00038 superceded PSD (54) 1742.

PSD 107-3702-00038, ISSUED MARCH 28, 1995

On March 28, 1995, Nucor received PSD 107-3702-00038 for the addition of 10 MMBtu/hour low NOx burners to the galvanizing line, pickle line No. 2 (PL2), cold reversing mill No. 2 (R/T Mill), acid regeneration unit No. 2, shuttle furnaces #1 and #2, the snub furnace, and sixteen annealing furnaces. This modification was subject to the requirements of 326 IAC 2-2 because its potential to emit PM, PM10 and NOx were greater than the relevant PSD significant levels.

Shuttle Furnaces #1 and #2 were modified by replacing their burners in AA109-26116-00038, issued on April 4, 2008. Although these furnaces were PSD BACT units, they were not subject to PSD BACT re-evaluation because the emissions increase due to the burners replacement is less than the PSD significant levels. Furthermore, they were capable of meeting their current PSD BACT limit.

Agreed Order 2000-8861-A, signed January 31, 2000

Nucor signed this agreed order to settle and bring into compliance several burners installed at the Cold Mill Galvanizing Line in 1995. As part of this settlement these burners went through PSD review in PSD 107, 14297-00038, issued on June 2, 2002.

PSD 107-5235-00038, ISSUED JUNE 20, 1996

This PSD allowed for the Meltshop to increase its capacity from 260 tons per hour to 502 tons per hour, along with the construction of a 9.98 MMBtu/hour natural gas fired boiler in the hydrogen plant (the hydrogen plant boiler), a 15 MMBtu/hour natural gas-fired ladle preheater (LP #5), to incorporate an existing 4.2 MMBtu/hour natural gas-fired boiler in the cold roll mill, and to increase the natural gas-fired snub furnace heat input from 5 MMBtu/hour to 6 MMBtu/hour. .

PSD 107-12143-00038, ISSUED JANUARY 19, 2001

On January 19, 2001, Nucor received a PSD 107-12143-00038 for the construction and operation of a strip caster line. This line is also identified as the Castrip Line. The Castrip Line consists of a ladle metallurgical station (LMS-2) with a baghouse for particulate control, tundish (T-1), rolling stand, coilers (C-1 and C-2), ladle preheaters (LP-1 and LP-2), tundish preheaters (TP-1 and TP-2), tundish nozzle preheaters (TNP-1 and TNP-2), tundish dryer (TD-1), cooling towers, and associated alloy storage and handling operations (AU-1). The Castrip began operation in April 2002.

PSD 107-16823-00038, ISSUED NOVEMBER 21, 2003

On November 21, 2003 Nucor was issued PSD 107-16823-00038, to construct several new units and make physical modifications to existing existing nits to utilize the maximum capacity of the steel mill. This modification was a PSD major modification to an existing PSD major source because the potential emission increases for PM, PM10, SO_2, VOC, CO, and NOx exceeded the relevant PSD thresholds as shown in the table below.

PSD SSM 107-21359-00038, ISSUED APRIL 27, 2006

Nucor Steel received a significant source modification (PSD/SSM 107-21359-00038) on April 27, 2006. This modification allows for the increase in the throughput of the Strip Caster (CASTRIP) and the Vacuun Degasser. Their modification was subject to PSD re-evaluation since they are PSD BACT units.

PSD/SSM 107-24328-00038, ISSUED ON DECEMBER 3, 2007

This permit allowed for the modification of the Meltshop Station through the addition of oxyfuel burner for each EAF, four EAF Ladles, one AOD vessel. one LMF and one CMB #2 Boiler and other related miscellaneous activities at the Meltshop Station. CMB #2 has never been installed. Based upon the NSR Reform Hybrid Test PTE calculations this modification emitted PM, PM10, VOC, CO and SO2 at PSD significant levels and for which BACT was evaluated, pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements).

PSD/SSM 107-26591-00038, ISSUED ON FEBRUARY 8, 2010

This permit allowed for the modification of the LMFs (EU-13) by ducting their exhaust to the EAFs Baghouses 1 and 2. Since the LMFs are PSD BACT units, PSD BACT was re-evaluated, pursuant to 326 IAC 2-2-3 (Control Technology Review Requirements). This modification also addressed and resolved previously appealed PSD BACT conditions.

This was the last PSD permit issued to the source. Several amendments and modifications have been issued after this permit.

Several Exemptions and Registrations have been issued to the source since it was built in 1989 until prior to IDEM's implementaion of the Part 70 Program on December 13, 1996. After the initial implementation of the Part 70 Permit Program, the source submitted several applications for which permits have been issued under this Part 70 Program (administrative amendments, permits and source modifications).

State Rule Applicability – Individual Facilities

(a) 326 IAC 2-2 (PSD)

(1) The proposed emission units in SSM No. 107-31415-00038 will have an uncontrolled PTE of PM10 and PM2.5 greater than the PSD significant levels and thus require a minor limit to be considered a minor project.

Making the control for the screw auger federally enforceable will be enough to keep the project minor for PSD. Therefore, the screw auger will be limited as follows:

PM10 and PM2.5 PSD Minor Limits [326 IAC 2-2
In order to make the requirements of 326 IAC 2-2 (PSD) not applicable, the PM10 and PM2.5 emissions from the screw auger for lime silo, SAS #1 shall each be limited to 0.6 pound per hour. Compliance with these limits shall keep the PM10 and PM2.5 emissions from emission units permitted in SSM 107-31415 below 15 tons per year and 10 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.

(2) D.1 - Castrip Vacuum Degasser and Flare
The Vacuum Degasser at the Castrip was originally permitted in PSD 107-18314-00038, issued on May 27, 2004. This is used to remove entrained CO gases from the steel at a rate of 135 tons/per hour. Its capacity is the same as the LMS and Castrip Line. This degasser was modified in PSD /SSM 21359-00038, issued on April 27, 2006 at the same time the Castrip Line, LMS and Strip Caster were modified to increase their capacities from 135 tons per hour to 270 tons per hour. The following requirements for the Vacuum Degasser reflect the latest PSD 107-21359-00038:

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:

Castrip Vacuum Degasser

(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 (SO2) 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/PM10 (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.

Castrip Vacuum Degasser Flare

(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 (NOx) 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 (SO2) emissions from the 2 MMBTU/hour flare burner shall not exceed 0.0006 pounds per MMBTU. The SO2 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.

(3) D.2 - CASTRIP - Low NOx Boiler
This boiler was also originally permitted in PSD 107-18314-00038 issued on May 27, 2004 the same time the Castrip Vacuum Degasser was permitted. However, it was re-permitted in PSD 107-21359-00038, issued on April 27, 2006 although no physical modification or change in the PSD BACT was made. The PSD BACT required for this boiler is the following:

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 (NOx) 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 (SO2) emissions from Boiler ID No. 501 shall not exceed 0.0006 pounds per MMBtu.

(F) The PM/PM10 (filterable and condensible) emissions from Boiler ID No. 501 shall not exceed 0.0076 pounds per MMBtu.

(4) D.3- CASTRIP - Preheaters, Dryers and Alloy Unloading
Several preheaters and dryers were permitted along with the rest of the Castrip operations in PSD 107-18314-00038, issued on May 27, 2004. Modification to the Castrip operation was made including the addition of another ladle preheater in PSD 107-21359-00038 issued on April 27, 2006. The following is the BACT required for these operations:

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:

(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 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

(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 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.

(D) 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.

Sulfur Dioxide (SO2) 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 SO2 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 SO2 emission rate of 0.0006 pounds per MMBtu. Further, the hourly SO2 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 SO2 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.

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.

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).

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 shall 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.

Nitrogen Oxide (NOx) Emission Limitation
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

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.

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).

(5) D.4. - Castrip LMS, Tundish and Continuous Strip Caster-
The Castrip LMS, Tundish and Continuous Strip Caster was originally permitted in PSD 107-12143-00038, issued on January 19, 2001, then it was modified in PSD /SSM 21359-00038, issued on April 27, 2006 to increase its molten metal production from 135 tons per hour to 270 tons per hour that is coming from the existing EAF. The following requirements for the Vacuum Degasser reflect the

latest PSD 107-21359-00038: The Tfollowing requirements reflect the latest PSD 107-21359-00038:

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/PM10 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.

<u>Nitrogen Oxide (NOx) PSD BACT [326 IAC 2-2]</u>
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.

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.

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 SO2 per ton of steel processed at the LMS-2.

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.

(6) D.7 - Slag Processing
Slag Processing was permitted in PSD 107-2764-00038, issued on November 30, 1993 which required the following BACT:

(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.

(7) D.8 LINDE Gases
LINDE Gases Plant originally BOC Gases is an on-site contractor, providing gases (oxygen, nitrogen, hydrogen, argon, and liquid air to Nucor operations. This plant was permitted in PSD 107-3702-00038, issued on March 28, 1995 and PSD 107-5235-00038, issued on June 20, 1996 with the following BACT requirements:

Pursuant to 326 IAC 2-2 and PSD 107-5235-00038, issued June 20, 1996, the Permittee shall comply with the following BACT requirements:

(A) The 9.98 MMBtu per hour hydrogen plant boiler shall burn natural gas with propane as backup fuel.

(B) 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.

Pursuant to 326 IAC 2-2 and PSD 107-3702-00038, issued March 28, 1995:

(A) 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.

(B) 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.

(C) 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.

(8) D.9 - Paved and Unpaved Roads
This was permitted in PSD 107-2764-00038, issued on November 30, 1995.

(9) D.10 - Petroleum Product Storage
Five storage vessels, identified as GST #1, DST #1, DST #2, DST #3 and DST #4 were permitted in PSD 107-2764-00038, issued on November 30, 1993 with the following BACT requirements:

(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.

(10) D.11 - Cooling Towers
Several Cooling Towers were installed at various areas of the plant. Two were installed for the Vacuum Degassers in PSD 107-18314-00038, issued on May 27, 2004. Linde Gases cooling tower CT-91A was permitted in PSD 107-26591-00038, issued on February 8, 2010. All the Meltshop, Hot Mill, Cold Mill, Galvanizing, Annealing, castrip and other Linde Gases cooling towers were all permitted in PSD 107-16823-0038, issued on November 21, 2003.

(b) 326 IAC 6-2 (Particulate Emissions Limitations for Source of Indirect Heating)

The following indirect heating units are subject to 326 IAC 6-2-4, for units constructed or permitted on or after September 21, 1983:

Emission Unit	Heat Input Capacity (MMBtu/hr)	Date Constructed or Permitted	PM Limit (lb/MMBtu)	Condition No.
CMB Boiler #1	34.0	1988	0.436	D.16.4
Linde Boiler No.1	7.0	1989	0.41	D.8.3
Linde Boiler No. 2	15.0	1994	0.379	D.8.3
Hydrogen Plant Boiler	9.98	1996	0.363	D.8.3
Boiler No. 501	71.04	2004	0.30	D.2.2
Steel Technologies Boiler	10.9	2008	0.293	D.16.4
6 Indirect Fired Air Heaters	each 0.8 4.8 total	2008	0.293 each	D.31-

The PM limits were calculated using the following equation:

$Pt = 1.09/Q^{0.26}$

Where: Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu)
Q = Total source maximum operating capacity rating in million Btu/per hour (MMBtu/hr) heat input. In general, the *total source heat input capacity (Q)* is the <u>sum</u> of the maximum operating capacity rating, in MMBtu/hr, for all indirect heating units located at the source on the date the indirect heating unit in question was constructed or permitted.

The maximum heat input for all indirect heating must be included in the summation in order to correctly calculate Q, including any small indirect heating units that meet the exemption definition in 326 IAC 2-1.1-3 or the insignificant definition in 326 IAC 2-7-1(21).

Once established for a specific emission unit, the value of Q and the emission limit do not change. Therefore, if an older indirect heating unit is subsequently removed from a source, the emission limit for other existing units at the source are not revised when the older unit is removed. Conversely, if a new emission unit is added to the source, the emission limits for the older units do not change.

The Linde Boiler No. 1 was permitted at 9 MMBtu/hr and limited under 326 IAC 6-2 using this rate as Q, but the plant installed a smaller boiler at 7 MMBtu/hr. The Q will not be adjusted for the smaller boiler, since allowable emissions for these boilers have already been established.

(1) CMB Boiler #1: $Pt = 1.09/(34)^{0.26} = 0.436$ lb/MMBtu
(2) Linde Boiler No.1: $Pt = 1.09/(34 + 9)^{0.26} = 0.41$ lb/MMBtu
(3) Linde Boiler No.2: $Pt = 1.09/(34 + 9 + 15)^{0.26} = 0.379$ lb/MMBtu
(4) Hydrogen Plant Boiler: $Pt = 1.09/(34 + 9 + 15 + 9.98)^{0.26} = 0.363$ lb/MMBtu
(5) Boiler No.501: $Pt = 1.09/(34 + 9 + 15 + 9.98 + 71.04)^{0.26} = 0.30$ lb/MMBtu

(6) Steel Tech Boiler: $Pt = 1.09/(34 + 9 + 15 + 9.98 + 71.04 + 10.9 + 4.8)^{0.26} = 0.293$ lb/MMBtu

(7) 6 Air Heaters: $Pt = 1.09/(34 + 9 + 15 + 9.98 + 71.04 + 10.9 + 4.8)^{0.26} = 0.293$ lb/MMBtu

(c) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(1) Proposed New Emission Units in SSM No. 107-31415-0038:

Pursuant to 326 IAC 6-3-2, the following emission units shall be limited as follows:

Emission Unit/Process ID	Process Weight Rate (ton/hour)	Particulate Limit (pound/hour)
Lime Pneumatic Conveying to Silo, SAS #1	25	35.43
Silo SAS #1 Screw Auger to ExistingConveyor #1	40	42.53

The above particulate emission limits shall be calculated using the following equation:

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

(2) D.3 - The alloy handling and dumping, storage, and transfer operations (AU-1 and AU-2) have a PSD BACT of 5% opacity limit, pursuant to 326 IAC 2-2-3. This PSD limit has been determined to be less stringent than the Particulate emissions limit established in 326 IAC 6-3-2. Therefore, 326 IAC 6-3-2 applies.

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 equation:

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

(3) D.5 - The raw materials handling and miscellaneous materials storage silos (Lime silo TFS-1; iron oxide IOS #1; baghouse dust silos: BHS#1, BHS#2, BHS#3; sand silo; lime silos: #1 SEAF, #2 SEAF, #3 NEAF, #4 NEAF; injection carbon silo #1; injection carbon silo #2; charge carbon silo #1; charge carbon silo #2; AOD alloy silos: AOD#1, AOD#2, AOD#3; Meltshop 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) have been determined to be subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour established using the following equation:

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

(4) D.6 - The insignificant coilers, coil cutting, and hot rolling stand are subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour established using the following equation:

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

(5) D.7 - The mill scale screen and conveyor system (MSS-1) have been determined to be subject to 326 IAC 6-3-2 with Particulate emissions limit of 64.8 in pound per hour at a process weight rate of 350 tons per hour. This Particulate emissions limit was established 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

(6) D.7 - The following emission units are subject to 326 IAC 6-3-2 with the following Particulate emissions limits in pound per hour in the table below established using the following equation:

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-Screen	60	46.3
Temporary Screening Plant - 7 Conveying Drop Points[3]	60 each drop point	46.3 each drop point
Temporary Screening Plant-Front End Loader	60	46.3
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] Eight Drop Points:
#1 Front end loader to grizzly feed hopper
#2 Grizzly feed hopper to Conveyor #1
#3 Conveyor #1 to Screen, PS1

#4 Screen, PS1 to Conveyor #2
#5 Conveyor #2 to Conveyor #3
#6 Conveyor #3 to Pile #1
#7 Screen, PS1 to Conveyor #4
#8 Conveyor #4 to 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

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

(7) D.11 - Non contact cooling tower, CT-91A, Meltshop non-contact, Hot Mill non-contact, Cold Mill non-contact, Cold Mill expansion non-contact, Galvanizing/Annealing non-contact, Annealing non contact, Castrip non-contact, Linde non-contact (CT-91b) and Vacuum Degasser non-contact cooling tower are not subject to 326 IAC 6-3-2 because non-contact cooling towers are specifically exempt from this rule.

(8) D.11 - Meltshop Caster, Meltshop Caster expansion, Hot Mill, Hot Mill expansion, Laminar and vacuum Degasser contact cooling towers are not subject to 326 IAC 6-3-2, because their Particulate emissions limit under 326 IAC 2-2-3 is more stringent than the limit in 326 IAC 6-3-2.

(9) D.12 - The insignificant scrap cutting subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour established using the following equation:

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

(10) D.12 - The clean shred scrap plant sorters/conveyors are subject to 326 IAC 6-3-2 with Particulate emissions limit of 63.0 pounds per hour at process weight rate of 300 tons per hour. This limitation is based on the following equation:

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

(11) D.15 - Pickle Line 1 and Pickle Line 2 (PL1 and PL2) are subject to 326 IAC 6-3-2 each with Particulate emissions limit of 61.0 pounds per hour when operating at process weight rates of 250 tons per hour each. This limitation is based on 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

(12) D.17 - The R/T Mill is subject to 326 IAC 6-3-2 with a Particulate emissions limit of 61.0 pounds per hour when operating at a process weight rate of 250 tons per hour. This limitation is based on 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

(13) D.18 - The Galvanizing Line Alkaline Cleaning Station is subject to 326 IAC 6-3-2 with Particulate emissions limit of 54.7 pounds per hour when operating at a process weight rate of 140 tons per hour. This limitation is based on 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

(14) D.19 - Each of the nineteen (19) annealing furnaces in the Cold Mill is subject to 326 IAC 6-3-2 with Particulate emissions limit of 58.5 pounds per hour when operating at a process weight rate of 200 tons per hour. This limitation is based on 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

(15) D.20 - The Quality Control/Rewind Inspection Line is subject to 326 IAC 6-3-2 with Particulate emissions limit of 46.3 pounds per hour when operating at a process weight rate of 60 tons per hour. This limitation is based on 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

(16) D.21 - The acid regeneration system (EU-04) is subject to 326 IAC 6-3-2 with Particulate emissions limit of 11.6 pounds per hour when operating at a process weight rate of 4.75 tons per hour. This limitation is based on the following equation:

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

(17) D.23 - the brazing equipment, cutting torches, soldering equipment, welding equipment, and structural steel and bridge fabrication activities are subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour emission rate established as E in the following equation:

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 hou

(18) D.24 - The shears and side trimmers are subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour emission rate established as E in the following equation*:*

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 hou

(19) D.25 - The Tunnel Furnace System (EU-02) is subject to 326 IAC 6-3-2 with Particulate emissions limit of 69.0 pounds per hour when operating at a process weight rate of 502 tons per hour. This limitation is based on 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

(20) D.26 - Each annealing furnace (HM #1 and HM #2) in the Hot Mill is subject to 326 IAC 6-3-2 with Particulate emissions limit of 59.0 pounds per hour when operating at a process weight rate of 210 tons per hour each. This limitation is based on 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

(21) D.28 - The material transfer station (MT #1) is subject to 326 IAC 6-3-2 with Particulate emissions limit of 55.4 pounds per hour when operating at a process weight rate of 150 tons per hour. This limitation is based on 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

(22) D.29 - The Meltshop Station's EAF, LMFs are not subject to 326 IAC 6-3-2, because they have Particulate emissions limits established under 326 IAC 2-2-3 (Control Technology Review Requirements) that are more stringent than the limit in 326 IAC 6-3-2.

(23) D.30 - The ladle tap hole cleaning and repair, ladle/tundish refractory application and curing, tundish dumping, and ladle dumping are subject to 326 IAC 6-3-2 with Particulate emissions limit in pound per hour emission rate established as E in the following equation:

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

(24) D.31 - The following emission units are subject to 326 IAC 6-3-2 with the following Particulate emissions limits in pound per hour in the table below established using the following equation:

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 in pounds per hour; and
P = process weight rate in tons per hour

(25) D.32 - The following emission units are subject to 326 IAC 6-3-2 with the following Particulate emissions limits in pound per hour 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.

(26) D.33 - The following emission units are subject to 326 IAC 6-3-2 with the following Particulate emissions limits in pound per hour in the table below:

Facility ID	Process Weight Rate (tons/hour)	Particulate Emissions Limit (pounds/hour)
Rail Unload Hopper (HP1)	400	66.3
Vibratory Screening Feeder (VF1)	250	61.0
Rail Unload Bucket Elevator (BE1)	250	61.0
Discharge Diverter (DV1)	250	61.0
Hot Material Discharge Chute (CH1)	250	61.0
Rail Unload Belt Conveyor (BC1)	250	61.0
Discharge Diverter (DV2)	250	61.0
Silo Loading Belt Conveyor (BC2)	250	61.0
Iron Carbide Silo (ICS1)	250	61.0
Day Bin (DB1)	250	61.0
South Furnace Belt Conveyor (BC10)	259	61.4
Belt Conveyor (BC7)	259	61.4
North Furnace Belt Conveyor (BC9)	259	61.4

These limits were established using the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess

$E = 55\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(c) 326 IAC 8-3 (Organic Solvent Degreasing Operation)

The insignificant cold cleaner degreasing operation is subject to 326 IAC 8-3-2. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations, performing organic solvent degreasing, constructed after January 1, 1980, the owner or operator shall:

(1) Equip the cleaner with a cover;

(2) Equip the cleaner with a facility for draining cleaned parts;

(3) Close the degreaser cover whenever parts are not being handled in the cleaner;

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label summarizing the operation requirements;

(6) 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 into the atmosphere.

(d) 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control) Volatile Organic Compounds (VOC).

The insignificant cold cleaner organic solvent degreasing operation, performing organic solvent degreasing, is subject to 326 IAC 8-3-5. Pursuant to 326 IAC 8-3-5(a), the owner or operator of a cold cleaner degreaser facility construction of which commenced after July 1, 1990, shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120°F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility, performing organic solvent degreasing, construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

(e) 326 IAC 8-4-6 (Gasoline Dispensing Facilities)

The Insignificant Fuel Dispensing Operation is subject to 326 IAC 8-4-6 which requires the following:

(1) The owner or operator of a gasoline dispensing facility the transfer of gasoline shall not allow the transfer of gasoline between any transport and any storage tank unless the tank is equipped with the following:

(A) A submerged fill pipe that extends to not more than:

(i) twelve (12) inches from the bottom of the storage tank if the fill pipe was installed on or before November 9, 2006; or

(ii) six (6) inches from the bottom of the storage tank if the fill pipe was installed after November 9, 2006.

(B) Either a pressure relief valve set to release at not less than seven-tenths (0.7) pounds per square inch or an orifice of five-tenths (0.5) inch in diameter.

(C) A vapor balance system connected between the tank and the transport operating according to manufacturer's specifications.

(2) If the owner or employees of the owner of a gasoline dispensing facility are not present during loading, it shall be the responsibility of the owner or the operator of the transport to make certain the vapor balance system is:

(A) connected between the transport and the storage tank; and

(B) operating according to manufacturer's specifications.

(f) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

This rule applies to all petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons) containing volatile organic compounds whose true vapor pressure is greater than 10.5 kPa (1.52 psi).

Gasoline storage tanks, identified as GST #1, DST #1, DST #2, DST #3 and DST #4 are not subject to 326 IAC 8-4-3 because each tank's capacity is well below 39,000 gallons.

(g) 326 IAC 8-1-6 (New facilities; general reduction requirements)

This rule is applicable to new facilities as of January 1, 1980 with potential VOC emissions of 25 tons per year that are not regukated by other provisions of Article 8.

(1) D.29 - Meltshop - The meltshop operation has the potential VOC emissions greater than 25 tons per year. However the PSD BACT established under 326 IAC 2-2 for this operation satisfies the BACT requirements under this rule, 326 IAC 8-1-6.

(2) D.16- Cold Reversing Mill - The Cold Reversing Mill has the potential VOC emissions greater than 25 tons per year. However the PSD BACT established under 326 IAC 2-2 for this operation satisfies the BACT requirements under this rule, 326 IAC 8-1-6.

(3) D.17- Cold Mill - Reversing/Tempering Mill - The Reversing/Tempering Mill has the potential VOC emissions greater than 25 tons per year. However the PSD BACT established under 326 IAC 2-2 for this operation satisfies the BACT requirements under this rule, 326 IAC 8-1-6.

(h) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)

This rule applies to emission units with a potential to emit 25 tons per year or 10 pounds per hour of sulfur dioxide. This rule limits only combustion sources that utilize coal, residual oil, distillate oil, or combination of these fuels.

Although Nucor has the potential to emit greater than 25 tons per year, none of its combustion sources use coal, residual oil, distillate oil, or combination of these fuels.

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 monitoring requirements applicable to this source are as follows:

Proposed New Emission Unit (SSM 107-31415-00038)				
Emission Unit	**Control Device**	**Pollutant**	**Frequency of Testing/ Monitoring**	**Monitoring**
D.3 Lime Screw Auger	[1]Lime Silo bin vent Filter	PM10, PM2.5	*every 5 years	Daily pressure drop reading and recording Maintain the Building for Lime Screw Auger Hopper at negative pressure

Existing Emission Units				
Emission Unit	**Control Device**	**Pollutant**	**Frequency of Testing/ Monitoring**	**Monitoring**
D.1 -Vacuum Degasser	Flare	CO	2.5 years after most recent stack test	Presence of flare pilot flame shall be monitored
D.4 - Castrip LMS	Baghouse	PM, Opacity, Lead, Mercury, Beryllium, Fluoride	2.5 years after most recent stack test	VIN of LMS-2 Baghouse and Pressure drop reading and recording
	No Control	NOx, CO, SO2	1 time testing	
D.7 Coil and Scrap Cutting, CC-1	Baghouse	PM and PM10	2.5 years after most recent stack test	Visible Emission Notations of MSS-1 uncontrolled exhaust and CC-1 baghouse and Pressure drop reading and recording
D.12 clean shred scrap plant	No control	particulate	once/day VIN	Visible Emission Notations of clean shred scrap plant and scrap cutting
D.15 Pickling Lines 1 and 2	Scrubbers and Mist Eliminators	HCl		Scrubber Failure Detection
D.21 Acid Regeneration	Scrubber	HCl and Cl2	Every 2.5 years	maintain scrubber flow

			after most recent stack test	rate of a minimum of 80 gallon/minute
D.22 Cold Mill - Galvanizing/Galvanneal, Annealing, Phosphate and chromate application	SCR/SNCR	NOx	One time testing to established amount of urea injected to SCR/SNCR	NOx CEMs
D.29 Meltshop Operation (EAFs, LMFs, AOD, CC, Preheaters and Dryers, EAF Dust Treatment)	Meltshop Baghouses 1 and 2	PM, PM10, lead, mercury, beryllium, fluorides	Once every 2.5 years from most recent stack test	VIN, Pressure Drop, BLDS, opacity (Method 9)
	No Contro	CO, NOx, SO2	Continuous reading	CEMS
D.31 Leveler Straightener,	[2]Leveler Straightener Baghouse AC-01	PM, PM10	Once every 5 years from most recent stack test	VIN, pressure drop reading and recording

Note: [1] The particulate collected from the Lime Screw Auger building, which is required to meet total enclosure or maintain negative pressure will be vented back into the lime silo and use the lime silo, SAS #1 bin vent filter to control PM10 and PM2.5 emissions.

*It has been decided that the bin vent filter will require repeat testing every 5 years since the lime silo, SAS #1 bin vent filter that will control the Lime Screw Auger only requires 70% control efficiency to keep the modification in SSM 107-31415 minor for PSD. The bin vent filter has a minimum control efficiency of 95%.

[2] The Leveler Straightener Baghouse AC-01 (D.31), has been required in significant source modification SSM No. 107-27300-00038 to be tested once every 5 years from most recent stack test, instead of every 2.5 years since it is a small baghouse.

These monitoring conditions are necessary to meet the PSD BACT established, pursuant to 326 IAC 2-2-3 and to avoid the requirements of 326 IAC 2-2.

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification No. 107-31415-00038 and Part 70 Operating Permit Renewal No. 107-30293-00038 be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

The source modification application for the purposes of this review was received on January 27, 2012 and the part 70 operating permit renewal application was received on March 1, 2011.

Conclusion

The construction of the source modification and operation of this steel mini mill shall be subject to the conditions of the attached Significant Source Modification no. 107-31415-00038 and Part 70 Operating Permit Renewal No. 107-30293-00038.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Aida DeGuzman 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, Indiana 47933
SSM No.: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

326 IAC 2-7-10.5 Applicability										
Process/Emission Unit	**PM**	**PM_{10}**	**PM2.5**	**VOC**	**CO**	**SO2**	**NO_x**	**GHG (CO2e)**	**Single HAP**	**Combined HAPs**
New Emission Units/Drop Points Uncontrolled Potential to Emit (tons/year)										
Lime Pneumatic Conveying into Silo, SAS #1	8.67	8.67	8.67	-	-	-	-	-	-	-
Silo Screw Auger to Existing Castrip Conveyor #1	8.67	8.67	8.67	-	-	-	-	-	-	-
New Cooling Tower (Linde Plant)	0.464	0.464	0.464	-	-		-	-	-	-
Steel Tech Burners-Cleaner	7.1	7.4	7.4	0.3	5.0	0.0	6.0	7,258	1.08E-01	1.13E-01
TOTAL PTE NEW UNITS	**24.91**	**25.25**	**25.25**	**0.3**	**5.0**	**0.0**	**6.0**	**7,258**	**1.08E-01**	**1.13E-01**
Modified Emission Units and Increase Utilization Uncontrolled Potential to Emit (tons/year) Before and After Modification										
PTE Before Modification and Increase Utilization										
Tunnel Furnaces 1 and 2	1.4	5.5	5.5	4.0	60.6	0.4	72.1	86,833	1.30E+00	1.36E+00
Linde Boilers 1 and 2	0.2	0.5	0.5	0.5	7.9	0.1	9.4	11,358	1.70E-01	1.78E-01
Caster Water Quench Steam Vent	3.70	3.70	3.70	-	-	-	-	-	-	-
Pinch Roller/Flattener for Pickle Line 2	116.68	116.68	116.68	-	-	-	-	-	3.9 (HCl)	3.90
TOTAL PTE BEFORE MODIFICATION/INCREASE UTILILIZATION	**121.93**	**126.32**	**126.32**	**4.49**	**68.53**	**0.49**	**81.59**	**98,191**	**3.9**	**5.4**
PTE After Modification and Increase Utilization										
Tunnel Furnaces 1 and 2	0.82	3.26	3.26	2.36	36.07	0.26	61.32	51,686	7.73E-01	8.09E-01
Linde Boilers 1 and 2	0.2	0.5	0.5	0.5	7.9	0.1	9.4	11,358	1.70E-01	1.78E-01
Caster Water Quench Steam Vent	13.7	13.7	13.7	-	-	-	-	-	-	-
Pinch Roller/Flattener for Pickle Linie 2	116.7	116.7	116.7	-	-	-	-	-	3.90	3.90
TOTAL PTE AFTER MODIFICATION/INCREASE UTILILIZATION UNITS	**131.37**	**134.09**	**134.09**	**2.88**	**44.01**	**0.31**	**70.77**	**63,045**	**3.9 (HCl)**	**4.89**
TOTAL NET INCREASE PTE	**9.44**	**7.77**	**7.77**	**(1.61)**	**(24.53)**	**(0.18)**	**(10.82)**	**(35,147)**	**0.0**	**(0.6)**
TOTAL NET INCREASE PTE FROM PROJECT	**34.34**	**33.02**	**33.02**	**(1.28)**	**(19.48)**	**(0.14)**	**(4.81)**	**(27,889)**	**0.0**	**(0.4)**

326 IAC 2-2- Applicability								
CONTROLLED PTE FROM NEW UNITS								
Lime Pneumatic Conveying into Silo (Bin Vents Filter)	0.04	0.04	0.04	-	-	-	-	-
Silo Screw Auger to Existing Silo Conveyor #1	2.60	2.60	2.60	-	-	-	-	-
New Cooling Tower (Linde Plant)	0.464	0.464	0.464	-	-	-	-	-
Steel Tech Burners-Cleaner	0.46	0.81	0.81	0.3	5.0	0.0	6.0	7,258
TOTAL PTE NEW UNITS	**3.57**	**3.92**	**3.92**	**0.33**	**5.05**	**0.04**	**6.01**	**7,258**
ACTUAL TO PTE (ATP) TEST MODIFIED AND INCREASE UTILIZATION								
BASELINE ACTUAL EMISSIONS								
Tunnel Furnaces 1 and 2	0.90	3.60	3.60	2.61	39.80	0.28	67.67	57,208
Linde Boilers 1 and 2	0.02	0.08	0.08	0.52	0.84	0.01	1.00	1,207
Caster Water Quench Steam Vent	9.99	9.99	9.99	-	-	-	-	-
Pinch Roller/Flattener for Pickle Linie 2	1.45	1.45	1.63	-	-	-	-	-
TOTAL BASELINE	**12.36**	**15.12**	**15.30**	**3.13**	**40.64**	**0.29**	**68.67**	**58,415**
POTENTIAL TO EMIT FROM MODIFED/INCREASE UTILIZATION								
Tunnel Furnaces 1 and 2	0.82	3.26	3.26	2.36	36.07	0.26	61.32	51,686
Linde Boilers 1 and 2	0.2	0.5	0.5	0.5	7.9	0.1	9.4	11,358
Caster Water Quench Steam Vent	13.7	13.7	13.7	-	-	-	-	-
Pinch Roller/Flattener for Pickle Linie 2	3.50	3.50	3.50	-	-	-	-	-
TOTAL PTE	**18.19**	**20.91**	**20.91**	**2.88**	**44.01**	**0.31**	**70.77**	**63,045**
EMISSIONS INCREASE (ATP)	**5.82**	**5.79**	**5.61**	**-0.24**	**3.36**	**0.02**	**2.10**	**4,629**
TOTAL EMISSIONS INCREASE FROM PROJECT (HYBRID TEST)	**9.4**	**9.7**	**9.5**	**0.09**	**8.41**	**0.06**	**8.11**	**11,887**
PSD Significant Threshold	**25**	**15**	**10**	**40**	**100**	**40**	**40**	**75,000**

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

PTE BEFORE MODIFICATION

Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr
	Existing		
84.0	Tunnel Furnace 1	1020	721.4
84.0	Tunnel Furnace 2		721.4
168.0			1,442.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
PTE (Tunnel Furnace 1) in tons/yr	0.7	2.7	2.7	0.2	36.1	2.0	30.3
PTE (Tunnel Furnace 2) in tons/yr	0.7	2.7	2.7	0.2	36.1	2.0	30.3
TOTAL PTE before Modification in tons/yr	**1.4**	**5.5**	**5.5**	**0.4**	**72.1**	**4.0**	**60.6**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100 lb/MMCF x MMCF/1020 MMBtu = 0.098 lb/MMBtu

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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
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PTE BEFORE MODIFICATION

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
PTE (Tunnel Furnace 1) in tons/yr	7.575E-04	4.328E-04	2.705E-02	6.493E-01	1.226E-03
PTE (Tunnel Furnace 2) in tons/yr	7.575E-04	4.328E-04	2.705E-02	6.493E-01	1.226E-03
TOTAL PTE before Modification in tons/yr	**1.515E-03**	**8.657E-04**	**5.411E-02**	**1.299E+00**	**2.453E-03**

	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
PTE (Tunnel Furnace 1) in tons/yr	1.804E-04	3.968E-04	5.050E-04	1.371E-04	7.575E-04
PTE (Tunnel Furnace 2) in tons/yr	1.804E-04	3.968E-04	5.050E-04	1.371E-04	7.575E-04
TOTAL PTE before Modification in tons/yr	**3.607E-04**	**7.936E-04**	**1.010E-03**	**2.741E-04**	**1.515E-03**
				Worst case single HAP	**1.299E+00**
				Combined HAPs	**1.359E+00**

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.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
SPM No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

PTE BEFORE MODIFICATION

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Total PTE for T. Furnaces 1 and 2 (tons/y	86,569.4	0.8	0.8
Summed PTE for T. Furnaces 1 and 2 (tons/yr)	86,571		
CO2e Total for T. Furnaces 1 and 2 (tons/yr)	86,833		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

PTE AFTER MODIFICATION

Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr
	Existing		
50.0	Tunnel Furnace 1	1020	429.4
50.0	Tunnel Furnace 2		429.4
100.0			858.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	143 **see below	5.5	84
PTE (Tunnel Furnace 1) in tons/yr	0.4	1.6	1.6	0.1	30.7	1.2	18.0
PTE (Tunnel Furnace 2) in tons/yr	0.4	1.6	1.6	0.1	30.7	1.2	18.0
TOTAL PTE after Modification in tons/yr	**0.8**	**3.3**	**3.3**	**0.3**	**61.3**	**2.4**	**36.1**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Vendor NOx Emission Factor of 0.14 lb/MMBtu (143 lb/MMCF)

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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
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PTE AFTER MODIFICATION

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
PTE (Tunnel Furnace 1) in tons/yr	4.509E-04	2.576E-04	1.610E-02	3.865E-01	7.300E-04
PTE (Tunnel Furnace 2) in tons/yr	4.509E-04	2.576E-04	1.610E-02	3.865E-01	7.300E-04
TOTAL PTE after Modification in tons/yr	**9.018E-04**	**5.153E-04**	**3.221E-02**	**7.729E-01**	**1.460E-03**

	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
PTE (Tunnel Furnace 1) in tons/yr	1.074E-04	2.362E-04	3.006E-04	8.159E-05	4.509E-04
PTE (Tunnel Furnace 2) in tons/yr	1.074E-04	2.362E-04	3.006E-04	8.159E-05	4.509E-04
TOTAL PTE after Modification in tons/yr	**2.147E-04**	**4.724E-04**	**6.012E-04**	**1.632E-04**	**9.018E-04**
				Worst case single HAP	**7.729E-01**
				Combined HAPs	**8.089E-01**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

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Company Name: Nucor Steel
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PTE AFTER MODIFICATION

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Total PTE for T. Furnaces 1 and 2 (tons/y	51,529.4	0.5	0.5
Summed PTE for T. Furnaces 1 and 2 (tons/yr)	51,530		
CO2e Total for T. Furnaces 1 and 2 (tons/yr)	51,686		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
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TUNNEL FURNACES 1 AND 2 PTE CHANGE

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
TOTAL PTE (Tunnel Furnaces 1 and 2) BEFORE MODIFICATION in tons/yr	1.4	5.5	5.5	0.4	72.1	4.0	60.6
TOTAL PTE (Tunnel Furnaces 1 and 2) AFTER MODIFICATION in tons/yr	0.8	3.3	3.3	0.3	61.3	2.4	36.1
PTE CHANGE (TONS/YR)	**-0.6**	**-2.2**	**-2.2**	**-0.2**	**-10.8**	**-1.6**	**-24.5**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.

TUNNEL FURNACES 1 AND 2 HAPs PTE CHANGE

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
TOTAL PTE (Tunnel Furnaces 1 and 2) BEFORE MODIFICATION in tons/yr	1.515E-03	8.657E-04	5.411E-02	1.299E+00	2.453E-03
TOTAL PTE (Tunnel Furnaces 1 and 2) AFTER MODIFICATION in tons/yr	9.018E-04	5.153E-04	3.221E-02	7.729E-01	1.000E+00
PTE CHANGE (TONS/YR)	**-6.132E-04**	**-3.504E-04**	**-2.190E-02**	**-5.256E-01**	**9.975E-01**

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
TOTAL PTE (Tunnel Furnaces 1 and 2) BEFORE MODIFICATION in tons/yr	3.607E-04	7.936E-04	1.010E-03	2.741E-04	1.515E-03
TOTAL PTE (Tunnel Furnaces 1 and 2) AFTER MODIFICATION in tons/yr	2.147E-04	4.724E-04	6.012E-04	1.632E-04	9.018E-04
PTE CHANGE (TONS/YR)	**-1.460E-04**	**-3.212E-04**	**-4.088E-04**	**-1.110E-04**	**-6.132E-04**

TUNNEL FURNACES 1 AND 2 CO2e PTE CHANGE

	Greenhouse Gas		
	CO2	CH4	N2O
TOTAL PTE (Tunnel Furnaces 1 and 2) BEFORE MODIFICATION in tons/yr	86,569.4	0.8	0.8
TOTAL PTE (Tunnel Furnaces 1 and 2) AFTER MODIFICATION in tons/yr	51,529.4	0.5	0.5
PTE CHANGE (TONS/YR)	**-35,040.0**	**-0.3**	**-0.3**
Summed PTE for T. Furnaces 1 and 2 Before Modification (tons/yr)	86,571		
Summed PTE for T. Furnaces 1 and 2 After Modification (tons/yr)	51,530		
SUMMED PTE CHANGE (TONS/YR)	**(35,041)**		
CO2e Total for T. Furnaces 1 and 2 Before Modification (tons/yr)	86,833		
CO2e Total for T. Furnaces 1 and 2 After Modification (tons/yr)	51,686		
CO2e PTE CHANGE (TONS/YR)	**-35,147**		

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
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Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr	
	Existing			
50.0	Tunnel Furnace 1	1020	947.7	2-yr actual usage (2006-2007)
50.0	Tunnel Furnace 2			
100.0				

	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)						
	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	143 **see below	5.5	84
Tunnel Furnaces 1 and 2	0.9	3.6	3.6	0.3	67.7	2.6	39.8

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Vendor NOx Emission Factor of 0.14 lb/MMBtu (143 lb/MMCF)

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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

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	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)				
	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Tunnel Furnaces 1 and 2	9.951E-04	5.686E-04	3.554E-02	8.529E-01	1.611E-03

	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
Tunnel Furnaces 1 and 2	2.369E-04	5.212E-04	6.634E-04	1.801E-04	9.951E-04
				Worst case single HAP	**0.000E+00**
				Combined HAPs	**8.926E-01**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
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	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)		
	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Total Baseline Actual for T. Furnaces 1 a	56,862.0	1.1	1.0
Summed Baseline Actual for T. Furnaces 1 and 2 (tons/yr)	56,864		
CO2e Total Baseline Actual T. Furnaces 1 and 2 (tons/yr)	57,208		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
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Date Application Received: 1/27/2012

	TUNNEL FURNACES 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST						
	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
BASELINE ACTUAL (tons/yr)	0.90	3.60	3.60	0.28	67.67	2.61	39.80
PTE (tons/yr)	0.8	3.3	3.3	0.3	61.3	2.4	36.1
EMISSIONS CHANGE (ATP) in tons/year	-0.1	-0.3	-0.3	0.0	-6.3	-0.2	-3.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.

	TUNNEL FURNACES 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST				
	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
BASELINE ACTUAL (tons/yr)	9.951E-04	5.686E-04	3.554E-02	8.529E-01	1.611E-03
PTE (tons/yr)	9.018E-04	5.153E-04	3.221E-02	7.729E-01	1.460E-03
EMISSIONS CHANGE (ATP) in tons/year	**-9.332E-05**	**-5.333E-05**	**-3.333E-03**	**-7.999E-02**	**-1.511E-04**

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
BASELINE ACTUAL (tons/yr)	2.369E-04	5.212E-04	6.634E-04	1.801E-04	9.951E-04
PTE (tons/yr)	2.147E-04	4.724E-04	6.012E-04	1.632E-04	9.018E-04
EMISSIONS CHANGE (ATP) in tons/year	**-2.222E-05**	**-4.888E-05**	**-6.221E-05**	**-1.689E-05**	**-9.332E-05**

	TUNNEL FURNACES 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST		
	Greenhouse Gas		
	CO2	CH4	N2O
BASELINE ACTUAL (tons/yr)	56,862.0	1.1	1.0
PTE (tons/yr)	51,529.4	0.5	0.5
EMISSIONS CHANGE (ATP) in tons/year	**-5,332.6**	**-0.6**	**-0.6**
Summed Baseline Actual	56,864		
Summed PTE	51,530		
SUMMED PTE CHANGE (ATP) in tons/year	**(5,334)**		
CO2e BASELINE	57,208		
CO2e PTE	51,686		
CO2e EMISSIONS CHANGE (ATP) in tons/year	**-5,522**		

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PTE DUE TO RELOCATION OF LIME SILO

Uncontrolled Potential to Emit							
Process/Facility	Maximum /lime Loading Rate (tons/hr)	Maximum /lime Loading Rate (tons/year)	PM (filterable) Emission Factor (lb/ton	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	Emission Factor
Lime Pneumatic Conveying into Silo, SAS #1	25	7,884	2.20	8.67	8.67	8.67	AP-42, Table 11.17-4
Silo Screw Auger to Existing Castrip Conveyor #1	40	7,884	2.20	8.67	8.67	8.67	AP-42, Table 11.17-4
Total Uncontrolled PTE				17.34	17.34	17.34	

Controlled Potential to Emit						
Process/Facility	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	PSD Minor Limits		326 IAC 6-3-2 Limits (lb/hr)
Lime Pneumatic Conveying into Silo, SAS #1	0.04	0.04	0.04	PM10 (lb/hr Limit)	PM2.5 (lb/hr Limit)	35.43
Silo Screw Auger to Existing Castrip Conveyor #1	2.60	2.60	2.60	0.6	0.6	42.53
Total Ccontrolled PTE		2.6	2.6	2.6		

326 IAC 6-3-2: Particulate Emission Limitations

Interpolation of the data fro process weight rates up to sixty thousand (60,000) pounds per hour shall be accomplished using the following equation:
E = 4.10 P^0.67

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 ton/hour

Silo bin vent filter control efficiency = 99.5 %

The small building where the screw auger drops into will be maintained at negative pressure and then particulate collected is ducted back into the Lime Sio, SAS #1 to be controlled by the bin vent filter with a control efficiency of 99.5%. However, to keep the limits for PM10 and PM2.5 closer to the significant level, 70% efficiency was utiized in the calculations.

Note: PM (filterable) EF of 2.2 lb/ton will be considered the same for PM10 and PM2.5 (filterable) since there are no EFs for PM10 and PM2.5.

Existing Lime silo will be relocated to keep the lime dry, which is currently handled in bulk via trucks. In its new location, lime will be pneumatically conveyed into the existing silo.
Two new drop points (pneumatic conveying into silo and screw conveyor to existing Castrip conveyor #1) will result due to the silo relocation. The truck dump loading will remain. All the other existing drop points into the Castrip will likewise remain unchanged.

270 tons/hr productaion at Castrip LMS x 8760 hrs/yr x 1 ladle/120 tons = 19,710 ladles/yr
19,710 ladles/yr x 800 lbs lime/ladle x ton/2000 lbs = 7,884 tons of lime/year

Methodology:
Uncontrolled PTE, tons/yr = Loading rate, tons/yr *EF, lb/ton * ton/200 lbs

Controlled PTE, tons/yr = Uncontrolled PTE /(1-control eff)

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LINDE GASES COOLING TOWER SPECIFICATIONS

Emission Source	Circulation Rate (gal/min)	Circulation Rate (gal/hr)	TDS Content (average mg/l)	Drift Loss (gal/gal of circulation)	Operating Hours (hr/yr)
New Cooling Tower	1,840	110,400	2,300	0.0050%	8760

CALCULATION OF POTENTIAL PM/PM10/PM2.5 EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Circulating Water TDS = (CC) (TDS)

Circulating Water TDS = $\frac{[(1)\ (2300\ mg/l)]\ (1.0g/1000\ mg)\ (3.785\ L/gal)}{(453.6\ g/lb)}$

Circulating Water TDS = 1.919E-02 lb/gal

Drift = (DR) (CW) = (0.00005) (110400 gal/hr) (8760 hr/yr)
Drift = 48,355 gal/year

Drift Particulate = (Drift) (Circulating Water TDS)
Drift Particulate = (48355.2 gal/yr) (0.01919 lb/gal) = 928.05 lb/yr

Drift PM/PM10/PM2.5 Emission Rate =	**928.05**	**=**	**0.1059**	**lb/hour**	**=**	**0.464 tons/year**

CALCULATION OF POTENTIAL VOC EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Emission Source		Circulation Rate (gal/hour)	VOM Emission Factor (lb/10^6 gal per hour)*	VOC (tpy)
Contact Cooling Towers		110,400	0	0.00

*Cooling Towers will not use VOC/HAP-containing chemicals

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Natural Gas Combustion Only
MM BTU/HR <100

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LINDE GASES Boilers INCREASE UTILIZATION

PTE FROM INCREASE UTILIZATION

Heat Input Capacity MMBtu/hr	Existing	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
	Boiler 1	1020	60.1
7.0	Boiler 2		128.8
15.0			188.9
22.0			

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
PTE (Boiler 1) in tons/yr	0.1	0.2	0.2	0.0	3.0	0.2	2.5
PTE (Boiler 2) in tons/yr	0.1	0.2	0.2	0.0	6.4	0.4	5.4
Total PTE from increase utilization in tons/yr	**0.2**	**0.5**	**0.5**	**0.1**	**9.4**	**0.5**	**7.9**

Note: For TV permitting level determination under 326 IAC 2-7-10.5, PTE before and after increase utilization are the same since the boilers are not being physically modified.
For 326 IAC 2-2 determination using Actual to PTE test, the 2 boilers are operating below capacity, and they are increasing utilization due to Linde Gases increase in oxygen production.
Per EPA Memo, "Request fo a PSD Applicability Determination for Murphy Oil", dated February 24, 2005, ATPA or ATP is the proper approach
in determining increase utilization from a boiler that is not physically modified but affected by a physical modification upstream.

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100 lb/MMCF x MMCF/1020 MMBtu = 0.098 lb/MMBtu

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/1,020 MMBtu

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

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PTE FROM INCREASE UTILIZATION	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
PTE (Boiler 1) in tons/yr	6.312E-05	3.607E-05	2.254E-03	5.411E-02	1.022E-04
PTE (Boiler 2) in tons/yr	1.353E-04	7.729E-05	4.831E-03	1.159E-01	2.190E-04
TotaL PTE from increase utilization in tons/yr	**1.984E-04**	**1.134E-04**	**7.085E-03**	**1.700E-01**	**3.212E-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
PTE (Boiler 1) in tons/yr	1.503E-05	3.306E-05	4.208E-05	1.142E-05	6.312E-05
PTE (Boiler 2) in tons/yr	3.221E-05	7.085E-05	9.018E-05	2.448E-05	1.353E-04
TOTAL PTE from increase utilization in tons/yr	**4.724E-05**	**1.039E-04**	**1.323E-04**	**3.590E-05**	**1.984E-04**
				Worst case single HAP	**1.700E-01**
				Combined HAPs	**1.780E-01**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

PTE FROM INCREASE UTILIZATION	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Total PTE for Boilers 1 and 2 (tons/yr)	11,336.5	0.1	0.1
Summed PTE for Boilers 1 and 2 (tons/yr)	11,337		
CO2e Total for Boilers 1 and 2 (tons/yr)	11,358		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr)
= CO2 Potential
Emission ton/yr
x CO2 GWP (1)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No. 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr	
Existing				
7.0	Linde Boiler 1	1020	20.0	2-yr actual usage (2006-2007)
15.0	Linde Boiler 2			
22.0				

	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)						
	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Linde Boilers 1 and 2	0.02	0.08	0.08	0.01	1.00	0.52	0.84

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.

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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)				
	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Linde Boilers 1 and 2	2.100E-05	1.200E-05	7.500E-04	1.800E-02	3.400E-05

	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
Linde Boilers 1 and 2	5.000E-06	1.100E-05	1.400E-05	3.800E-06	2.100E-05
				Worst case single HAP	**0.000E+00**
				Combined HAPs	**1.884E-02**

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

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Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

	2-yr BASELINE ACTUAL EMISSIONS (TONS/YEAR)		
	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Total Baseline Actual Emissions from Lir	1,200.0	0.0	0.0
Summed Baseline Actual for Linde Boilers 1 and 2 (tons/yr)	1,200		
CO2e Baseline Actual for Linde Boilers 1 and 2 (tons/yr)	1,207		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

	LINDE BOILERS 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST						
	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
BASELINE ACTUAL (tons/yr)	0.02	0.08	0.08	0.01	1.00	0.52	0.84
PTE (tons/yr)	0.18	0.46	0.46	0.06	9.45	0.52	7.94
EMISSIONS CHANGE (ATP) in tons/year	0.16	0.38	0.38	0.05	8.45	0.00	7.10

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.

	LINDE BOILERS 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST				
	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
BASELINE ACTUAL (tons/yr)	2.100E-05	1.200E-05	7.500E-04	1.800E-02	3.400E-05
PTE (tons/yr)	1.984E-04	1.134E-04	7.085E-03	1.700E-01	3.212E-04
EMISSIONS CHANGE (ATP) in tons/year					

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
BASELINE ACTUAL (tons/yr)	5.000E-06	1.100E-05	1.400E-05	3.800E-06	2.100E-05
PTE (tons/yr)	4.724E-05	1.039E-04	1.323E-04	3.590E-05	1.984E-04
EMISSIONS CHANGE (ATP) in tons/year					

	LINDE BOILERS 1 AND 2 ACTUAL TO POTENTIAL TO EMIT (ATP) TEST		
	Greenhouse Gas		
	CO2	CH4	N2O
BASELINE ACTUAL (tons/yr)	1,200.0	0.0	0.0
PTE (tons/yr)	11,336.5	0.1	0.1
EMISSIONS CHANGE (ATP) in tons/year			
Summed Baseline Actual	1,200		
Summed PTE	11,337		
SUMMED PTE CHANGE (ATP) in tons/year	**10,137**		
CO2e BASELINE	1,207		
CO2e PTE	11,358		
CO2e EMISSIONS CHANGE (ATP) in tons/year	**10,151**		

Company Name: Nucor Steel
4537 South Nucor Road, Crawfordsville, IN 47933
SSM No.: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

Addition of Pinch Roll/Flattener for Pickling Line :

			PTE to PTE Test													
			Controlled Potential to Emit Before Modificatio							Uncontrolled Potential to Emit Before Modificatio						
	Air Flow Rate (dscfm)	PM/PM10 Emissions Limit or Loading Rate (gr/dscf)	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	HCl Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	SO2 Emissions (tons/yr)	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	HCl Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	SO2 Emissions (tons/yr)
PTE Before Modification	9,324	0.01	3.50	3.50	0.12	-	-	-	-	116.7	116.7	3.9	-	-	-	-
			Controlled Potential to Emit After Modification							Uncontrolled Potential to Emit After Modification						
PTE After Modification	9,324	0.01	3.50	3.50	0.12	-	-	-	-	116.7	116.7	3.9	-	-	-	-
Net Increase to PTE			0.00	0.00	0.00	-	-	-	-	0.00	0.00	0.00	-	-	-	-

			Actual to PTE (ATP) Test													
			Controlled Potential to Emit of the Modification							Baseline Actual Emissions						
Pickle Line 2	9,324	0.01	3.50	3.50	3.5	-	-	-	-	1.45	1.45	1.63	-	-	-	-
Emissions Change			2.0	2.0	1.9	-	-	-	-	-	-	-	-	-	-	-

This operation has a federally enforceable control requirement in the permit.
Pickle Line 2 Scrubber =97% control efficiency

Stack test data: HCl = 0.832 lb/hr + 0.063 lb/hr HCl fugitive = 0.89 lb/hr HCl

Methodology:

PTE, tons/yr = air flow rate, dscfm * Emission Factor, gr/dscf * 60 min/hr * 8760 hr/yr * lb/7000 gr* ton/2000 lbs

2-Years Actual Hours	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2002	10,765	18,471	23,494	10,733	15,305	21,474	12,499	12,239	29,441	17,266	22,534	31,724	225,945
2003	20,553	12,915	11,840	19,057	15,222	21,244	23,414	14,752	27,109	12,630	16,430	14,840	210,006
												Average minutes/yr	217975.635
												Average hours/yr	**3,633**

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

Steel Technologies

Unit ID	Air Flow rate (dscf)	Outlet Grain Loading (gr/dscf)	Controlled PM/PM10/PM2.5	Uncontrolled PM/PM10/PM2.5	PM/P10/PM2.5 (lb/hr Limit)
*Leveler/ Straightener Cleaner/Degrease	3,100	0.003	0.3	7.0	0.08

Note: * controlled by mist eliminator with control efficiency of 95%
The steel does not have oil and the cleaner will use hot water only.

Heat Input Capacity MMBtu/hr		HHV mmBtu / mmscf	Potential Throughput MMCF/yr
14.0	Steel Tech. burners	1020	120.2

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Burners PTE in tons/yr	0.1	0.5	0.5	0.0	6.0	0.3	5.0
Cleaner/degreaser PTE in tons/yr	7.0	7.0	7.0	-	-	-	-
TOTAL PTE Controlled	**0.5**	**0.8**	**0.8**	**0.0**	**6.0**	**0.3**	**5.0**
TOTAL PTE Uncontrolled	**7.1**	**7.4**	**7.4**	**0.0**	**6.0**	**0.3**	**5.0**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 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/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
TV Renewal No. 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Burners PTE in tons/yr	1.262E-04	7.214E-05	4.509E-03	1.082E-01	2.044E-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
Burners PTE in tons/yr	3.006E-05	6.613E-05	8.416E-05	2.284E-05	1.262E-04
				Worst Single HAP	1.082E-01
				Total Combined HAPs	1.135E-01

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.
See Page 3 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM No.: 107-31415
TV Renewal No. 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
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	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Burners PTE in tons/yr	7,214	0.1	0.1
Summed Burners PTE in tons/yr	7,214		
CO2e Total in tons/yr	7,258		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, Indiana 47933
SSM Number: 107-31415
TV Renewal No.: 107-30293
Plt ID: 107-00038
Reviewer: Aida DeGuzman
Date Application Received: 1/27/2012

	PTE to PTE Test						
	Air Flow Rate After Modification (dscf/min)	Inlet/Outlet Grain Loading (gr/dscf)	Uncontrolled PM/PM10/PM2.5 PTE After Modification (tons/yr)	Air Flow Rate Before Modification (dscf/min)	Inlet/Outlet Grain Loading (gr/dscf)	Uncontrolled PM/PM10/PM2.5 PTE Before Modification (tons/yr)	PTE Net Increase (tons/yr)
Caster Water Quencher Steam Vent	110,500	0.0033	13.7	80,646	0.0033	10.0	3.7

Actual to PTE Test

	Air Flow Rate (dscf/min)	Inlet/Outlet Grain Loading (gr/dscf)	Controlled PM/PM10/PM2.5 PTE (tons/yr)	Actual Air Flow Rate (dscf/min)	Outlet Grain Loading (gr/dscf)	Actual PM/PM10/PM2.5 PTE (tons/yr)	Net Increase (tons/yr)
Caster Water Quencher Steam Vent	110,500	0.0033	13.7	80,646	0.0033	10.0	3.7

Note: The outlet grain loading and air flow from the casters steam vent were based on stack test done in 2007.
This process is not controlled, therefore, uncontrolled PTE is equivalent to controlled PTE.

Company Name: Nucor Steel
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Date Application Received: 1/27/2012

	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Total 2006
Tunnel Furnaces #1 & #2	80,774,908	86,073,917	102,811,932	80,263,875	82,100,606	##########	89,524,412	85,012,869	##########	73,279,455	75,128,978	98,241,961	1,071,579,109
Linde O2 Plant Boiler 2	837,279	954,314	1,030,503	672,922	691,221	796,621	710,243	694,052	928,932	822,667	752,454	1,168,638	10,059,845
Linde O2 Plant Boiler 1	719,871	841,054	866,736	550,461	557,559	642,881	574,914	561,972	753,668	663,391	610,136	973,910	8,316,553

	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Total 2007
Tunnel Furnaces #1 & #2	77,174,945	90,338,783	111,004,978	82,026,151	80,686,515	95,080,549	71,914,034	79,255,360	98,334,079	66,838,831	78,703,896	103,186,155	1,034,544,275
Linde O2 Plant Boiler 2	1,020,643	1,229,674	1,242,798	878,498	701,012	735,275	734,853	794,110	1,129,651	994,800	962,252	1,345,898	11,769,463
Linde O2 Plant Boiler 1	865,074	1,083,134	1,028,257	707,097	565,865	585,005	594,850	644,507	919,868	805,449	772,704	1,108,733	9,680,544

2-yr Actual Usage from Tunnel Furnaces #1 and #2	947.7 MMCF/yr
2-yr Actual Usage from Linde Gases Boilers 1 and 2	20 MMCF/yr

For 2006 the annual tunnel furnace gas usage, take the annual total of 1,071.6 MMCF minus 139.3 MMCF (shuttle usage) plus 32.15 MMCF (the usage from the snub furnce that was subtracted out and should go towards the tunnel furnace usage): 1071.6 - 139.3 +32.15 = 964.4 MMCF/year

For 2007 the annual tunnel furnace gas usage, take the annual total of 1,034.5 MMCF minus 134.5 MMCF (shuttle usage) plus 31.0 MMCF (the usage from the snub furnce that was subtracted out and should go towards the tunnel furnace usage): 1034.5 - 134.5 + 31.0 = 931.0 MMCF/year

There are no flow meters for the shuttle usage
Snub furnace did not operate during this time so gas usaga was added back to the tunnel furnaces.

This number of 947.7 MMBtu/yr is larger than the number Nucor supplied in the permit application and is due to the corrections for the shuttles and the snub furnace.

Company Name: Nucor Steel
4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

	Controlled/Limited Potential to Emit							Uncontrolled Potential to Emit						
Process/Facility	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	Combined HAPs Emissions (tons/yr)	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	Combined HAPs Emissions (tons/yr)
D.1 - Vaccum Degasser	0.20	0.20	26.02	88.70	5.91	5.91	-	0.20	-	26.02	1,774.00	5.91	5.91	-
D.2 - Castrip -Low NOx Boiler	2.4	2.4	0.2	19	0.8	31.1	1.60E-04	2.4	2.4	0.2	19	0.8	31.1	-
D.3 - Tundish Preheaters (TP-1 TP-2)	0.7	0.7	0.053	7.4	0.5	8.8	4.38E-05	0.7	0.7	0.053	7.4	0.5	8.8	4.38E-05
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)	0.1	0.1	0	1.5	0.1	1.8	8.70E-06	0.1	0.1	0	1.5	0.1	1.8	8.70E-06
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)	1.2	1.2	0.095	13.2	0.9	15.8	7.88E-05	1.2	1.2	0.095	13.2	0.9	15.8	7.88E-05
D.3 - Tundish Dryers (TD-1, TD-2, TD-3)	0.3	0.3	0	2.9	0.2	3.5	2.00E-06	0.3	0.3	0	2.9	0.2	3.5	2.00E-06
Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TPD-2)	0.1	0.1	0	1.6	0.1	1.9	1.070E-06	0.1	0.1	0	1.6	0.1	1.9	1.07E-06
D.4 - Castrip - LMS, Continuous Strip Caster	13.5	39.0	248.3	166.7	106.4	224.7	0.6	9,010.3	26,029.7	248.3	166.7	106.4	224.7	0.6
D.5 - Injection Carbon Silo #1	0.45	0.45	-	-	-	-	-	90.0	90.0	-	-	-	-	-
D.5 - Lime Silo (5) and carbon silos (3)	0.45	0.45	-	-	-	-	-	60.0	60.0	-	-	-	-	-
D.8 - Linde Gases Boilers	1.1	1.1	0.089	12.5	0.82	17.5	-	1.1	1.1	0.1	12.5	0.8	17.5	-
D.15 - Pickle Line 1	3.50	3.50	-	-	-	-	-	350.0	350.0	-	-	-	-	-
D.15 - Pickle Line 2	2.71	2.71	-	-	-	-	-	90.3	90.3	-	-	-	-	-
D.16 - Cold Reversing Mill	31.54	31.5	-	-	65.7	-	-	630.8	630.8	-	-	65.7	-	-
D.16 - Cold Mill Boiler	0.45	0.45	0.089	5.2	0.4	29.8	0.28	0.45	0.45	0.089	5.2	0.4	29.8	0.28
D.17 - Cold Mill - Reversing /Temper Mill	31.54	31.5	-	-	65.7	-	-	630.8	630.8	-	-	65.7	-	-
D.19 - Annealing Furnace	3.04	3.04	0.240	33.6	2.2	39.95	0.75	3.04	3.04	0.24	33.55	2.20	39.95	0.75
D.21 Acid Regen Burners	0.37	0.37	0.029	4.1	0.3	4.9	0.093	0.37	0.37	0.029	4.1	0.3	4.9	0.093
D.22 - Cold Mill Burners D.22 Galvanizing Line	2.68	2.68	0.211	29.62	1.94	25.0	0.665	2.68	2.68	0.21	29.62	1.94	499.3	0.665
D.25 - Tunnel and Shuttle Furnaces	6.57	6.57	0.526	73.6	4.8	153.8	1.640	6.57	6.57	0.526	73.57	4.8	153.8	1.64
D.26 - Hot Strip Annealing Furnace	0.97	0.97	0.076	10.67	0.70	12.45	0.24	0.97	0.97	0.076	10.7	0.700	12.5	0.24
D.29 - Meltshop Operations	138.0	308.7	725.6	4397.5	197.9	769.6	1.1	92,000.0	205,800.0	725.6	4,397.5	197.9	769.6	733.3
SSM 107-31415-00038	9.4	9.5	0.06	8.4	0.1	8.1	0.114	27.4	26.0	0.06	8.4	0.1	8.1	0.114
Sourcewide PTE	**251.28**	**438.10**	**1,001.59**	**4,876.15**	**455.47**	**1,354.63**	**5.49**	**102,910**	**233,702**	**1,002**	**6,553**	**455**	**1,821**	**738**
Sourcewide GHG (CO2e)	**449,115.90**							**449,116**						

Notes:

For CAM applicability the worst case is the entire Meltshop Operations which include 2 EAFS, 3 LMFs, AOD vessel, decarburization station, 2 continuous casters all controlled by Meltshop Baghouses 1 and 2.
The Meltshop has been determined to be a large unit in PSD 107-26591 and a CAM has already been established in that PSD permit.

Meltshop baghouse Efficiency = 99.86%
Castrip baghouseEfficiency = 99.85%
Vacuum Degasser Flare is used to control CO only= 95%
Cold Reversing Mill Mist Eliminator = 95%

Methodology:
PTE, tons/yr = Throughput, tons/yr * Emission Factor, lb/ton * ton/2000 lbs
PTE, tons/yr = air flow rate, dscfm * Emission Factor, gr/dscf * 60 min/hr * 8760 hr/yr * lb/7000 gr* ton/2000 lbs

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

											Controlled Potential to Emit							Uncontrolled Potential to Emit						
Process/Facility	Maximum Throughput Rate		Air Flow Rate (dscfm)	Emissions Limit or Loading Rate	PM2.5 Emissions Limit (gr/dscf)	SO2 Emissions Limit (lb/ton)	CO Emissions Limit (lb/ton)	VOC Emissions Limit (lb/ton)	NOx Emissions Limit (lb/ton)	Lead Emissions Limit (lb/hr)	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	Lead Emissions (tons/yr)	PM/PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)	SO2 Emissions (tons/yr)	CO Emissions (tons/yr)	VOC Emissions (tons/yr)	NOx Emissions (ton/yr)	Lead Emissions (tons/yr)
D.1 - Vaccum Degasser	270	tons/hour	6,500	0.0008	_	0.022	0.075	0.005	0.005		0.20	0.20	26.02	88.70	5.91	5.91	-	0.20	-	26.02	1,773.90	5.91	5.91	-
D.2 - Castrip -Low NOx Boiler	See detailed calcs on page										2.4	2.4	0.2	19	0.8	31.1	1.60E-04	2.4	2.4	0.2	19	0.8	0.00016	-
D.3 - Tundish Preheaters (TP-1 TP-2)	See detailed calcs on page										0.7	0.7	0.053	7.4	0.5	8.8	4.38E-05	0.7	0.7	0.053	7.4	0.5	8.8	4.38E-05
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)	See detailed calcs on page										0.1	0.1	0	1.5	0.1	1.8	8.70E-06	0.1	0.1	0	1.5	0.1	1.8	8.70E-06
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)	See detailed calcs on page										1.2	1.2	0.095	13.2	0.9	15.8	7.88E-05	1.2	1.2	0.095	13.2	0.9	15.8	7.88E-05
D.3 - Tundish Dryers (TD-1, TD-2, TD-3)	See detailed calcs on page										0.3	0.3	0	2.9	0.2	3.5	2.00E-06	0.3	0.3	0	2.9	0.2	3.5	2.00E-06
D.3 - Transition Piece Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TPD-2)	See detailed calcs on page										0.1	0.1	0	1.6	0.1	1.9	1.070E-06	0.1	0.1	0	1.6	0.1	1.9	1.07E-06
D.3 - Castrip Alloy (Lime conveying 5 drop pts.) Baghouse 1	41,600	lbs/day	Emission Factor 2.2 lb/ton (AP-42 11.17-4			-	-	-	-	-	0.42	0.42	-	-	-	-	-	41.76	41.76	-	-	-	-	-
D.3 - Castrip Alloy (Lime conveying 3 drop pts.) Baghouse 2	41,600	lbs/day	Emission Factor 2.2 lb/ton (AP-42 11.17-4			-	-	-	-	-	0.25	0.25	-	-	-	-	-	25.05	25.05	-	-	-	-	-
D.4 - Castrip - LMS, Continuous Strip Caster (D.4)	2,365,200	tons/year	200,000	0.0018	0.0052	0.21	0.141	0.09	0.19	0.13	13.5	39.0	248.3	166.7	106.4	224.7	0.6	9,010.3	26,029.7	248.3	166.7	106.4	224.7	379.6
D.5 Lime (5) and Carbon Silos (3)			1,200	0.01	each silo	-	-	-	-	-	0.45	0.45	-	-	-	-	-	60.1	60.1	-	-	-	-	-
D.15 - Pickle Line 1			9,324	0.01	-	-	-	-	-	-	3.50	3.50	-	-	-	-	-	350.0	350.0	-	-	-	-	-
D.15 - Pickle Line 2			9,324	0.01	-	-	-	-	-	-	3.50	3.50	-	-	-	-	-	116.7	116.7	-	-	-	-	-
D.16 - Cold Reversing Mill	250	tons/hr	84,000	0.01	-	-	-	0.06	-	-	31.54	31.5	-	-	65.7	-	-	630.7	630.7	-	-	65.7	-	-
D.17 - Cold Mill - Reversing /Temper Mill	250	tons/hr	84,000	0.01	-	-	-	0.06	-	-	31.54	31.5	-	-	65.7	-	-	630.7	630.7	-	-	65.7	-	-
D.22 - Galvanizing Line	Preheat Furnace		see page 3 for other						2.9	lbs/hr						12.7							254.0	
	Radiant Tube		pollutants PTE						2.8	lbs/hr						12.3							245.3	
D.29 - Meltshop Operations	4,397,520	tons/year	2,042,055	0.0018	0.0052	0.33	2.0	0.09	0.35	0.2400	138.0	398.7	725.6	4,397.5	197.9	769.6	1.1	138.0	398.7	725.6	4,397.5	197.9	769.6	700.8
TOTAL PTE											**227.70**	**513.89**	**1,000.30**	**4,698.56**	**444.24**	**1,088.04**	**1.62**	**11,008.33**	**28,288.22**	**1,000.30**	**6,383.77**	**444.24**	**1,531.29**	**1,080.40**

Notes:
For CAM applicability the worst case is the entire Meltshop Operations which include 2 EAFS, 3 LMFs, AOD vessel, decarburization station, 2 continuous casters all controlled by Meltshop
The Meltshop has been determined to be a large unit in PSD 107-26591 and a CAM has already been established in that PSD permit.

Meltshop baghouse Efficiency = 99.86%
Castrip baghouseEfficiency = 99.85%
Vacuum Degasser Flare is used to control CO only= 95%
Cold Reversing Mill Mist Eliminator = 95%
Pickle Line 1 Scrubber =99%
Pickle Line 2 Scrubber =97%
Lime and carbon Silos bin Vents = 99.25%
Galvanizing Line SCR/SNCR (NOx) 95%
Emission Factors (Efs) are based upon the source's federally enforceable (PSD BACT) limits.

Methodology:
PTE, tons/yr = Throughput, tons/yr * Emission Factor, lb/ton * ton/2000 lbs
PTE, tons/yr = air flow rate, dscfm * Emission Factor, gr/dscf * 60 min/hr * 8760 hr/yr * lb/7000 gr* ton/2000 lbs

Appendix A: Emission Calculations
Limited Combustion Emissions

Company Name: Nucor Steel
Address: 4357 South Nucor Road, Crawfordsville, Indiana 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plant ID: 107-00038
Reviewer: Aida DeGuzmar
Date: March 1, 2011

Natural Gas Combustion

Unlimited Natural Gas Combustion		Pollutant						
		PM	PM10	SO_2	NO_X	CO	VOC	HAPs
8760 hours per year	*Emission Factors or PSD BACT Limits (lbs/MMCF)	7.6	7.6	0.6	100	84.0	5.5	1.89
	D.8 - Linde Boiler No. 2 PSD Limit (lb/MMCF)	*	*	*	140	*	*	*
	D.16 - CMB#1 PSD BACT Limit (lb/MMCF)	3	3	*	200	35.0	2.8	*
	D.25 -Tunnel Furnaces 1, 2 PSD BACT Limits	*	*	*	190	*	*	*
	D.26 - Annealing furnaces Minor Source Mod Limits	*	*	*	98	*	*	*

Emission Unit ID	Unit ID	Heat Input Capacity (MMBtu/hour)	Potential Throughput (MMCF/year)	Potential To Emit (tons/year)						
				PM	PM10	SO_2	NO_X	CO	VOC	HAPs
D.1 - Flare (N.G. and Degasser gas)	Vacuum Degasser Flare	2.0	17.5	0.07	0.07	0.005	0.88	0.74	0.05	0.017
D.8 - Linde Gases Boilers (N.G. and Propane fired)	No.1	9.0	78.8	0.30	0.30	0.024	3.94	3.31	0.22	0.074
	No.2	15.0	131.4	0.50	0.50	0.039	9.20	5.52	0.36	0.124
	Hydrogen Plant Boiler	9.98	87.4	0.33	0.33	0.026	4.37	3.67	0.24	0.082
D.16 - Cold Mill Boiler	CMB#1	34.0	297.8	0.45	0.45	0.089	29.78	5.21	0.42	0.281
D.19 - 19 annealing furnaces each 4.8 MMBtu/hr	EU-03 and AN-19	91.2	798.9	3.04	3.04	0.240	39.95	33.55	2.20	0.754
D.21 - Acid Regen 2 Burners each 5.6 MMBtu/hr	EU-04	11.2	98.1	0.37	0.37	0.029	4.91	4.12	0.27	0.093
D.22 - Cold Mill 36 Main Burners each 1.622 MMBtu/hr, 3 Auxiliary Burner each 0.1 MMBtu/hr	PHB #1 - PHB #36	58.7	514.2	1.95	1.95	0.154	25.71	21.60	1.41	0.485
D.22 - Cold Mill - 44 Additional Burners each 0.323 MMBtu/hr, 1 Auxiliary Alkaline Cleaning Burner at 3.2 MMBtu/hr, 2 Strip Dryer Burners each 1.5 MMBtu/hr, 4 Pot Roll Burners each 0.052 MMBtu/hr, 2 Zinc Pot Emergency Burners each 0.58 MMBtu/hr and 2 Preheat Open End Burners	RB#1 - RB#44	21.8	191.0	0.73	0.73	0.057	9.55	8.02	0.53	0.180
D.25 - Tunnel Furnaces 1 and 2 each 84 MMBtu/hr	EU-02	168.0	1471.7	5.59	5.59	0.442	139.81	61.81	4.05	1.389
D.25 - Shuttle Furnaces 1 and 2 each 13 MMBtu/hr Snub Furnace at 6 MMBtu/hr	EU-02	32.0	280.3	1.07	1.07	0.084	14.02	11.77	0.77	0.264
D.26 - Hot Strip - Annealing Furnaces each 14.505 MMBtu/hr	HM #1, HM #2	29.0	254.1	0.97	0.97	0.076	12.45	10.67	0.70	0.240
D.29 - Meltshop - 7 Ladle Preheaters LP #1a - LP #6a, LD-1. LP #1a - LP #5a and LD-1 each at 10 MMBtu/hr, LP #6 at 12 MMBtu/hr	LP #1a - LP #6a, LD-1	72.0	630.7	2.40	2.40	0.189	31.536	26.49	1.73	0.595
D.29 - Meltshop - 2 Ladle Dryers each 5 MMBtu/hr, 5 Tundish Preheaters each 6 MMBtu/hr, Tundish Dryout Stations each 9 MMBtu/hr, 4 Tundish Nozzle Preheaters each 9 MMBtu/hr, 1 Tundish Dryout Station, 2 Mandrel Dryers each 1.5 MMBtu/hr 2 Ladle Warmers each 3 MMBtu/hr	LDS #1, LDS #1a, TP1-TP5, TD #1, TD #2, TNP #1-#4, TD #3, MD#1, MD#2, LWB #1, LWB #2	141.6	1240.4	4.71	4.71	0.372	62.021	52.10	3.41	1.170
TOTAL		**695.5**	**6092.5**	**22.47**	**22.47**	**1.83**	**388.12**	**248.59**	**16.35**	**5.75**

All PTE calculations are based upon Emission Factors/PSD Limits with the asterisk (*) above, unless the operation has different PSD Limit

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	365,550	7.0	6.7
Summed Potential Emissions in tons/yr	365,563		
CO2e Total in tons/yr	367,774		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
71.04	1000	622.3

D.2 - Castrip Low NOx Boiler

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
PSD BACT Limits in lb/MMCF	7.6	7.6	7.6	0.6	35	2.6	61
Potential Emission in tons/yr	2.4	2.4	2.4	0.2	10.9	0.8	19.0

*PM/PM10 limits (filterable and condensable)
PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	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	6.534E-04	3.734E-04	2.334E-02	5.601E-01	1.058E-03

	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	1.556E-04	3.423E-04	4.356E-04	1.182E-04	6.534E-04

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.
See Page 3 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	37,339	0.7	0.7
Summed Potential Emissions in tons/yr	37,340		
CO2e Total in tons/yr	37,566		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr
12.00	each	1000	315.4
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)			
10.00	each		175.2
D.3 - Tundish Preheaters (TP-1, TP-2)			
2.00	each		35.0
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)			

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
8.00	total	70.1
D.3 - Tundish dryers (TD-1, TD-2, TD-3)		
4.30	total	37.7
D.3 - Transition Piece Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TP-2)		

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
PSD BACT Limits (lb/MMCF)	7.6	7.6	7.6	0.6	100	5.4	84
(LP-1, LP-2, LP-3) PTE in tons/yr	1.2	1.2	1.2	0.095	15.8	0.9	13.2
(TP-1, TP-2) PTE in tons/yr	0.7	0.7	0.7	0.053	8.8	0.5	7.4
(TNP-1, TNP-2) PTE in tons/yr	0.1	0.1	0.1	0.0	1.8	0.1	1.5
(TD-1, TD-2, TD-3) PTE in tons/yr	0.3	0.3	0.3	0.0	3.5	0.2	2.9
(TPD-1, TPD-2, TPP-3, TPP-4) PTE in tons/yr	0.1	0.1	0.1	0.0	1.9	0.1	1.6
TOTAL PTE (tons/yr)	**2.4**	**2.4**	**2.4**	**0.2**	**31.7**	**1.7**	**26.6**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
Emission Factors (Efs) are based upon PSD BACT limits.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No.: 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

Heat Input Capacity MMBtu/hr		HHV mmBtu/mmscf	Potential Throughput MMCF/yr	Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
12.00	each	1000	315.4	8.00	total	70.1
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)				D.3 - Tundish dryers (TD-1, TD-2, TD-3)		
10.00	each		175.2	4.30	total	37.7
D.3 - Tundish Preheaters (TP-1, TP-2)				D.3 - Transition Piece Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TP-2)		
2.00	each		35.0			
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)						

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
(LP-1, LP-2, LP-3) PTE in tons/yr	3.311E-04	1.892E-04	1.183E-02	2.838E-01	5.361E-04
(TP-1, TP-2) PTE in tons/yr	1.840E-04	1.051E-04	6.570E-03	1.577E-01	2.978E-04
(TNP-1, TNP-2) PTE in tons/yr	3.679E-05	2.102E-05	1.314E-03	3.154E-02	5.957E-05
(TD-1, TD-2, TD-3) PTE in tons/yr	8.400E-06	4.800E-06	3.000E-04	7.200E-03	1.360E-05
(TPD-1, TPD-2, TPP-3, TPP-4) PTE in tons/yr	4.515E-06	2.580E-06	1.613E-04	3.870E-03	7.310E-06
SUB-TOTAL PTE (tons/yr)	**5.648E-04**	**3.227E-04**	**2.017E-02**	**4.841E-01**	**9.144E-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
(LP-1, LP-2, LP-3) PTE in tons/yr	7.884E-05	1.734E-04	2.208E-04	5.992E-05	3.311E-04
(TP-1, TP-2) PTE in tons/yr	4.380E-05	9.636E-05	1.226E-04	3.329E-05	1.840E-04
(TNP-1, TNP-2) PTE in tons/yr	8.760E-06	1.927E-05	2.453E-05	6.658E-06	3.679E-05
(TD-1, TD-2, TD-3) PTE in tons/yr	2.000E-06	4.400E-06	5.600E-06	1.520E-06	8.400E-06
(TPD-1, TPD-2, TPP-3, TPP-4) PTE in tons/yr	1.075E-06	2.365E-06	3.010E-06	8.170E-07	4.515E-06
SUB-TOTAL PTE (tons/yr)	3.225E-06	7.095E-06	9.030E-06	2.451E-06	1.355E-05
				worst single HAP	4.841E-01
				Combined HAPs	5.061E-01

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

Heat Input Capacity MMBtu/hr		HHV mmBtu / mmscf	Potential Throughput MMCF/yr	Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
12.00	each	1000	315.4	8.00	total	70.1
D.3 - Castrip Preheaters (LP-1, LP-2, LP-3)				D.3 - Tundish dryers (TD-1, TD-2, TD-3)		
10.00	each		175.2	4.30	total	37.7
D.3 - Tundish Preheaters (TP-1, TP-2)				D.3 - Transition Piece Preheaters (TPP-3, TPP-4) and Dryers (TPD-1, TP-2)		
2.00	each		35.0		Total Throughput	633.3
D.3 - Tundish Nozzle Preheaters (TNP-1, TNP-2)						

	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
PTE in tons/yr	38,001	1	1
Summed PTE, tons/year	38,002		
CO2e Total, tons/year	38,232		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

PTE (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/tor
CO2e (tons/yr) = CO2 PTE ton/yr x CO2 GWP (1) + CH4 PTE ton/yr x CH4 GWP (21) + N2O PTE ton/yr x N2O GWP (310).

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in AA No. 107-29433-00038, issued on September 17, 2010:

Facility	Capacity gal/min	Drift Rate Loss %	Total Dissolved Solids (TDS) Fraction	Uncontrolled / Controlled PM/PM10/PM2.5
D. 11 - Cooling Tower (CT-91A)	900	0.005	0.002	0.20

Facility	Capacity (cu ft)	Air Flow Rate (dscf/min)	Grain Loading (grain/dscf)	Controlled PM/PM10/PM2.5	Uncontrolled PM/PM10/PM2.5
D. 5 - Injection Carbon Silo #1	3,625	1200	0.01	0.45	90.1

For Part 70 permitting level under 326 IAC 2-7-10.5 - The replaced silo is loaded by a pneumatic truck through an enclosed hose into the silo.
The silo has a bin vent that IDEM has determined to be integral to the process.
This replaced unit has been determined to be an insignificant activity.
For PSD purposes, 326 IAC 2-2 - Uncontrolled emissions have been considered.
Assuming control efficiency of the bin vent filter = 99.5%
Methodology:
Cooling Tower, PTE = capacity, gal/min * water density, 8.34 lb/gal, TDS, fraction * drift rate, %/100 * ton/2000 lbs * 60 min/hr * 8760 hrs/yr
Silo, Controlled PTE = air flow rate, dscf/min * gr/dscf * 60 min/hr * 8760 hrs/yr * lb/7000 gr * ton/2000 lbs
Silo, Uncontrolled PTE = Controlled PTE/(1-control efficiency)

Appendix A: Emissions Calculations
Diesel Fired Generator (BSBP-5)

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plant ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM No. 107-29010-00038, issued on June 25, 2010.

Capacity
Brake HP

425

D.32- Generator, BSBP-5

	Pollutant				
	PM/PM10/PM2.5	SO2	NOx	VOC	CO
Emission Factor in lb/HP-hr SCC # 2-02-001-02	0.0022	0.00205	0.0310	0.0025	0.0067
Potential Emission in tons/yr	4.1	3.8	57.7	4.6	12.4

Methodology
PTE, tons/yr = capacity, horsepower * Emission Factor, lb/HP-hr * 8760 * ton/2000 lbs

Output Horsepower Rating (hp)	425.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	3,723,000

Green House Gas Emissions (GHG)

		Pollutant	
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	2140.73	0.09	0.02

Summed Potential Emissions in tons/yr	**2140.83**
CO2e Total in tons/yr	**2147.88**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM No. 107-29010-00038, issued on June 25, 2010.

D.7 - Existing Slag processing (EU-10)

					Uncontrolled Potential to Emit			
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)	AP-42
Replacement Crusher (New)	100	0.0054	0.0024	0.0024	2.37	1.05	1.05	Table 12.5-4
Existing Conveying process (10 drop points) **	50	0.003	0.0011	0.0011	6.57	2.41	2.41	Table 11.19.2-2
Existing screening process **	50	0.025	0.0087	0.0087	5.48	1.91	1.91	Table 11.19.2-2
TOTAL UNCONTROLLED PTE					**14.41**	**5.37**	**5.37**	

** A new 100 tons/hr crusher will replace the 50 tons/hr crusher. The existing slag conveying process (10 drop points and screening operations are debottlenecked by the new additional larger crusher). For 326 IAC 2-7-10.5 the uncontrolled PTE from these debottlenecked emission units is calculated as PTE after change - PTE before change, which is PTE for 100 tons/hr - PTE for 50 tons/hr = PTE for 50 tons/hr

Actual To PTE (ATP) Emissions (tons/year)							
	Baseline Actual Emissions (tons/yr)						
Process/Facility	Maximum Throughput Rate (tons/hr)	PM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Existing Conveying process (10 drop points)	30.6	0.003	0.0011	0.0011	0.02	0.01	0.01
Existing screening process	30.6	0.025	0.0087	0.0087	0.02	0.01	0.01
Total Baseline Actual Emissions (tons/yr)					**0.04**	**0.02**	**0.02**
	Controlled PTE Emissions (tons/yr)						
Process/Facility	Maximum Throughput Rate (tons/hr)	PM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Replacement Crusher *	100	0.0054	0.0024	0.0024	0.07	0.03	0.03
Existing Conveying process (10 drop points)	100	0.003	0.0011	0.0011	0.39	0.14	0.14
Existing screening process	100	0.025	0.0087	0.0087	0.33	0.11	0.11
Total Controlled PTE Emissions (tons/yr)					**0.79**	**0.29**	**0.29**
Net Emissions Change from Slag Operation (ATP) (tons/yr)					**0.76**	**0.27**	**0.27**

* Based on PTE since it is a new unit. For debottlenecked emission units the source chose to do Actual to PTE test (ATP) to determine the emission change from these units, instead of the Actual to Projected Actual (ATPA) test.
The particulate emission from the slag processing is controlled by the existing water spray systems with 97% control.

Baseline actual emissions were based from period March 2008 to February 2010, at an average actual hours of 1,448 /yr and 30.6 tons/hr production rate.
Detailed baseline actual emissions data was submitted by the source on 4/7/2010.

Ten drop points:

Drop #1 existing conveyor to new replacement crusher
Drop #2 New replacement crusher to existing conveyor belt
Drop #3 Existing conveyor to existing conveyor
Drop #4 Existing conveyor to existing screen
Drop #5 Existing screen to existing conveyor
Drop #6 Existing screen to existing conveyor
Drop #7 Existing screen to existing conveyor
Drop #8 Existing conveyor to storage pile
Drop #9 Existing conveyor to storage pile
Drop #10 Existing conveyor to storage pile

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in AA No. 107-26849-00038 on October 10, 2008 for Steel Technologies.

Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
4.8	6 heaters D.31	42.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
6 heaters PTE in tons/year	0.0	0.2	0.0	2.1	0.1	1.8
TOTAL PTE in tons/year	**0.0**	**0.2**	**0.0**	**2.1**	**0.1**	**1.8**

*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

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in AA No. 107-26849-00038 on October 10, 2008 for Steel Technologies.

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.8	42.0
D.31 - 6 heaters	

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Total Potential Emission in tons/yr	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

	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	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
				Single HAP	**0.000E+00**
				Combined HAPs	**1.900E-03**

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.

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	2,523	0.0	0.0
Summed Potential Emissions in tons/yr	2,523		
CO2e Total in tons/yr	2,538		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in AA No. 107-26819-00038, issued on October 10, 2008:

D.3 -Bulk lime storage silo and a dedicated conveying system (totally enclosed Auger) :

Uncontrolled Potential to Emit					
Process/Facility	Outlet Grain Loading (Gr/dscf)	Air Flow Rate (dscfm)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Silo (Bin Vent Baghouse)	0.01	1200.00	0.45	0.45	0.45

Capacity (tons/hour)	**Uncontrolled Potential to Emit**				
30	PM Emission Factor (lb/ton)	PM10/PM2.5 Emission Factor (lb/ton)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Silo Auger Transfer Point (uncontrolled)	0.003	0.0011	0.39	0.145	0.145
TOTAL UNCONTROLLED PTE			**0.84**	**0.60**	**0.60**

Controlled Potential to Emit					
Process/Facility	Outlet Grain Loading (Gr/dscf)	Air Flow Rate (dscfm)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Silo (Bin Vent Baghouse)	0.01	1200.00	0.45	0.45	0.45

Capacity (tons/hour)	**Uncontrolled Potential to Emit**				
30	PM Emission Factor (lb/ton)	PM10/PM2.5 Emission Factor (lb/ton)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)	PM2.5 Emissions (tons/yr)
Silo Auger Transfer Point (uncontrolled)	0.003	0.0011	0.39	0.14	0.14
TOTAL CONTROLLED PTE			**0.84**	**0.60**	**0.60**

Lime is pneumatically conveyed into the new silo. The baghouse for the silo is an integral part of the pneumatic conveying system because the baghouse is necessary to separate the air from the lime being conveyed which then drops the lime into the silo. The pneumatic conveying system will not work without the baghouse. Therefore, the PTE is determined after the control.

Methodology:
Controlled PTE, tons/yr = Outlet grain loading of the control, gr/dscf * air flow rate, dscfm * 60 min/hr * 8760 hrs/yr * lb/7000 gr * ton/2000 lbs
= Capacity, tons/hr * EF, lb/ton * 8760 hrs/yr * ton/2000 lbs
Uncontrolled PTE, tons/yr = Uncontrolled PTE /(1-control eff)

Company Name: Nucor Steel
Address City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt No.: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-29766-00038, issued on April 4, 2011

Hybrid Test -	**CONTROLLED/LIMITED PTE (TONS/YEAR)**							
Process/Facility	PM	PM10	PM2.5	CO	SO2	VOC	NOx	HAPs
Section D.32 - 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
Section D.7 - 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
Section D.7 - 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
Replacement Screen, TSP-2	0.75	0.26	0.26	0.00	0.00	0.00	0.00	0
#1-#5 Conveyor Drop Points #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.

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-29766-00038, issued on April 4, 2011

Section D.32 - 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)

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Reviewer:	Aida De Guzman
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Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	425.0	Section D.32 - 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	637,500	Limited Throughput (hp-hr/yr)

	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**

Green House Gas Emissions (GHG)

		Pollutant	
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	366.56	0.01	0.00

Summed Potential Emissions in tons/yr	**366.58**
CO2e Total in tons/yr	**367.79**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential

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
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Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	97.0	Section D.7 - 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**

Green House Gas Emissions (GHG)

		Pollutant	
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	488.59	0.02	0.00

Summed Potential Emissions in tons/yr	**488.61**
CO2e Total in tons/yr	**490.22**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential

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Heat Input Capacity MMBtu/hr		Potential Throughput MMCF/yr
11.0	Section D.7 - Coil Cutter	96.4

	Pollutant			
	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	0.6	100 **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

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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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As permitted in SSM 107-29766-00038, issued on April 4, 2011

Section D.7 - 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 $u^* \le u^*_t$

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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SECTION D.7 - 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 fugitive dust control = 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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Section D.7 - 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 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 & existing. magnetic separator #2 to pile #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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Section D.7 - 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
Part 70 Operating Permit Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-29766-00038, issued on April 4, 2011

Section D.7 Slag Operation

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
#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
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

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

TV Renewal No.: 107-30293

SSM No. : 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-29766-00038, issued on April 4, 2011

Section D.7 - 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.

Appendix A: Emission Calculations
DRI Handling System
Uncontrolled Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No. 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-30886-00038

UNCONTROLLED EMISSIONS

	Throughput	Throughput		Emission Factor (lb/ton)			Capture Eff.	Control Eff.	Emissions (tpy)		
Point	(tons/hr)	(tons/yr)	Description	PM	PM_{10}	$PM_{2.5}$	(%)	(%)	PM	PM_{10}	$PM_{2.5}$
1	400	3,504,000	Railcar Dump into Rail Unload Hopper (HP1)	0.0024	0.0011	0.00034	0	0	4.20	1.93	0.60
2	250	2,190,000	HP1 to Vibrating Screen Feeder (VF1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
3	10	87,600	VF1 to Drag Conveyor (DC1)	0.025	0.0087	0.0087	0	0	1.10	0.38	0.38
4	10	87,600	DC1 to Hopper (HP2)	0.0024	0.0011	0.00034	0	0	0.11	0.05	0.01
5	15	131,400	HP2-Screw (SC5) to Fines Storage Bag (BS1)	0.0024	0.0011	0.00034	0	0	0.16	0.07	0.02
6	250	2,190,000	VF1 to Bucket Elevator (BE1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
7	25	219,000	BE1 to Recirculating Conveyor (SC1)	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
8	25	219,000	SC1 to SC2	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
9	25	219,000	SC2 to BE1	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
10	250	2,190,000	BE1-Discharge Diverter (DV1) to Emergency Chute (CH1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
11	250	2,190,000	BE1-DV1 to Belt Conveyor (BC1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
12	250	2,190,000	BC1-DV2 to BC2 *or* BC1-DV2 to Day Bin (DB1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
13	250	2,190,000	BC2 to Iron Carbide Silo (ICS1)	0.0024	0.0011	0.00034	0	0	2.63	1.20	0.37
14	130	1,138,800	ICS1 to VF2	0.0024	0.0011	0.00034	0	0	1.37	0.63	0.19
15	4	35,040	VF2 to HP3	0.025	0.0087	0.0087	0	0	0.44	0.15	0.15
16	4	35,040	HP3-Screw (SC6) to BS2	0.0024	0.0011	0.00034	0	0	0.04	0.02	0.01
17	130	1,138,800	VF2 to BE2	0.0024	0.0011	0.00034	0	0	1.37	0.63	0.19
18	13	113,880	BE2 to SC3	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
19	13	113,880	SC3 to SC4	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
20	13	113,880	SC4 to BE2	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
21	130	1,138,800	BE2-DV3 to Emergency Chute (CH2)	0.0024	0.0011	0.00034	0	0	1.37	0.63	0.19
22	130	1,138,800	BE2-DV3 to BC3	0.0024	0.0011	0.00034	0	0	1.37	0.63	0.19
23	130	1,138,800	BC3 to DB1	0.0024	0.0011	0.00034	0	0	1.37	0.63	0.19
24S-1	225	1,971,000	DB1 to Weigh Belt Feeder (WB1)	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24S-2	225	1,971,000	WB1 to BC4	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24S-3	225	1,971,000	BC4 to BC10	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24S-4	259	2,268,840	BC10 to EAF:South	0.0024	0.0011	0.00034	0	0	2.72	1.25	0.39
24N-1	225	1,971,000	DB1 to WB2	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24N-2	225	1,971,000	WB2 to BC5	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24N-3	225	1,971,000	BC5 to BC7	0.0024	0.0011	0.00034	0	0	2.37	1.08	0.34
24N-4	259	2,268,840	BC7 to BC9	0.0024	0.0011	0.00034	0	0	2.72	1.25	0.39
24N-5	259	2,268,840	BC9 to EAF:North	0.0024	0.0011	0.00034	0	0	2.72	1.25	0.39
								TOTAL	**52.20**	**23.76**	**7.711**

NOTES:
Emission factors for drop points are from AP-42, Chapter 12.5, Table 12.5-4, "Pile formation stacker pellet ore".
Emission factors for screening (uncontrolled) are from AP-42, Chapter 11.19.2, Table 11.19.2-2, SCC# 3-05-020-02. $PM_{2.5}$ has been assumed to be equal to PM_{10}.

METHODOLOGY:
Throughput (tons/yr) = Throughput (tons/hr) * 8760 hr/yr
Emissions (tpy) = Throughput (tons/yr) * Emission Factor (lb/ton) * [1 - Capture Efficiency] * [1 - Control Efficiency] ÷ 2000 lb/ton

Appendix A: Emission Calculations
DRI Handling System
Limited Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No.: 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-30886-00038

DRI Handling System Throughput Limit: 800,000 tpy

LIMITED EMISSIONS (UNCAPTURED/UNCONTROLLED)

	Throughput	Throughput		Emission Factor (lb/ton)			Capture Eff.	Control Eff.	Emissions (tpy)		
Point	(tons/hr)	(tons/yr)	Description	PM	PM_{10}	$PM_{2.5}$	(%)	(%)	PM	PM_{10}	$PM_{2.5}$
1	400	800,000	Railcar Dump into Rail Unload Hopper (HP1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
2	250	800,000	HP1 to Vibrating Screen Feeder (VF1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
3	10	87,600	D.33DRI (32)	0.025	0.0087	0.0087	0	0	1.10	0.38	0.38
4	10	87,600	DC1 to Hopper (HP2)	0.0024	0.0011	0.00034	0	0	0.11	0.05	0.01
5	10	87,600	HP2-Screw (SC5) to Fines Storage Bag (BS1) [*see note]	0.0024	0.0011	0.00034	0	0	0.11	0.05	0.01
6	250	800,000	VF1 to Bucket Elevator (BE1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
7	25	219,000	BE1 to Recirculating Conveyor (SC1)	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
8	25	219,000	SC1 to SC2	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
9	25	219,000	SC2 to BE1	0.0024	0.0011	0.00034	0	0	0.26	0.12	0.04
10	250	800,000	BE1-Discharge Diverter (DV1) to Emergency Chute (CH1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
11	250	800,000	BE1-DV1 to Belt Conveyor (BC1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
12	250	800,000	BC1-DV2 to BC2 *or* BC1-DV2 to Day Bin (DB1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
13	250	800,000	BC2 to Iron Carbide Silo (ICS1)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
14	130	800,000	ICS1 to VF2	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
15	4	35,040	VF2 to HP3	0.025	0.0087	0.0087	0	0	0.44	0.15	0.15
16	4	35,040	HP3-Screw (SC6) to BS2	0.0024	0.0011	0.00034	0	0	0.04	0.02	0.01
17	130	800,000	VF2 to BE2	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
18	13	113,880	BE2 to SC3	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
19	13	113,880	SC3 to SC4	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
20	13	113,880	SC4 to BE2	0.0024	0.0011	0.00034	0	0	0.14	0.06	0.02
21	130	800,000	BE2-DV3 to Emergency Chute (CH2)	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
22	130	800,000	BE2-DV3 to BC3	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
23	130	800,000	BC3 to DB1	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
24S-1	0	0	DB1 to Weigh Belt Feeder (WB1) [*see note]	0.0024	0.0011	0.00034	0	0	0.00	0.00	0.00
24S-2	0	0	WB1 to BC4 [*see note]	0.0024	0.0011	0.00034	0	0	0.00	0.00	0.00
24S-3	0	0	BC4 to BC10 [*see note]	0.0024	0.0011	0.00034	0	0	0.00	0.00	0.00
24S-4	0	0	BC10 to EAF:South [*see note]	0.0024	0.0011	0.00034	0	0	0.00	0.00	0.00
24N-1	225	800,000	DB1 to WB2	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
24N-2	225	800,000	WB2 to BC5	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
24N-3	225	800,000	BC5 to BC7	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
24N-4	225	800,000	BC7 to BC9 [*see note]	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
24N-5	225	800,000	BC9 to EAF:North [*see note]	0.0024	0.0011	0.00034	0	0	0.96	0.44	0.14
								Total	**19.30**	**8.68**	**3.05**

NOTES:
All throughput has been treated as going through the north system (24N-1 through 24N-5) because there is an additional drop point, which provides for higher overall emissions.
Point 5 is bottlenecked by Point 4.
Points 24N-4 and 24N-5 are bottlenecked by Points 24N-1, 24N-2, and 24N-3.

METHODOLOGY:
Throughput (tons/yr) [for throughput less than 900,000 tpy] = Throughput (tons/hr) * 8760 hr/yr
Emissions (tpy) = Throughput (tons/yr) * Emission Factor (lb/ton) * [Capture Efficiency/100] * [1 - Control Efficiency/100] ÷ 2000 lb/ton

Appendix A: Emission Calculations
DRI Handling System
Particulate Emissions

Company Name: Nucor Steel
Address, City IN Zip: 4537 South Nucor Road, Crawfordsville, IN 47933
TV Renewal No.: 107-30293
SSM No.: 107-31415
Plt ID: 107-00038
Reviewer: Aida De Guzman
Date Application Received: 1-Mar-2011

As permitted in SSM 107-30886-00038

Allowable Emissions (326 IAC 6-3-2)
Emission units with the following process weight rates have uncontrolled emissions less than 0.551 lb/hr.
Therefore, these emission units are exempt from 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(14).

P (Process Weight Rate) (tons/hr)	PM EF (lb/ton)	Uncontrolled PTE (lb/hr)
10	0.025	0.250
10	0.0024	0.024
15	0.0024	0.036
25	0.0024	0.060
130	0.0024	0.312
4	0.025	0.100
4	0.0024	0.010
13	0.0024	0.031
225	0.0024	0.540

Pursuant to 326 IAC 6-3-2(e)(1): $E = 55.0\ P^{0.11} - 40$ (for process weight rates in excess of sixty thousand (60,000) pounds)

P (Process Weight Rate) (tons/hr)	PM EF (lb/ton)	Uncontrolled PTE (lb/hr)	E (Limited PTE) (lb/hr)
400	0.0024	0.960	66.3
250	0.0024	0.600	61.0
259	0.0024	0.622	61.4

All emission units with these process weight rates are capable of complying with 326 IAC 6-3-2 without the use of controls.

NOTES:
Emission factors for drop points are from AP-42, Chapter 12.5, Table 12.5-4, "Pile formation stacker pellet ore".
Emission factors for screening (uncontrolled) are from AP-42, Chapter 11.19.2, Table 11.19.2-2, SCC# 3-05-020-02, SCC# 3-05-020-06.

METHODOLOGY:
Uncontrolled PTE (lb/hr) = P (tons/hr) * PM EF (lb/ton)

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: May 15, 2012

RE: Nucor Steel / 107-31415-00038

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Toll Free (800) 451-6027
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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: David A Sulc
Nucor Steel
4537 S Nucor Road
Crawfordsville, IN 47933

DATE: May 15, 2012

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

SUBJECT: Final Decision
Significant Source Modification
107-31415-00038

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:
Ronald Dickerson – VP/GM
Herbert Weidemann – Environmental Resources Management (ERM)
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
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

May 15, 2012

TO: Crawfordsville District 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: 107-31415-00038

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

Mail Code 61-53

IDEM Staff	GHOTOPP 5/15/2012 Nucor Steel 107-31415-00038 Final			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		David A Sulc Nucor Steel 4537 S Nucor Rd Crawfordsville IN 47933 (Source CAATS) via confrimed delivery									
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. Chet Parsons 512 E Main Street Ladoga IN 47954 *(Affected Party)*									
10		Ms. Cheryl Cunningham 512 E Main Street Ladoga IN 47954 *(Affected Party)*									
11		Mr. Herbert Wendemann 25 W 130 Setauket Ave Naperville IL 60540 *(Affected Party)*									
12		Paul Sutton 9634 E. 150 N. Darlington IN 47940 *(Affected Party)*									
13		Mr. Robert Ford RR 1, Box 233 New Ross IN 47968 (Affected Party)									
14		June Truax 3750 US 136 E Crawfordsville IN 47933 *(Affected Party)*									
15		Judy Goshorn 6836 South Ladoga Road Ladoga IN 47954 *(Affected Party)*									

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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Mail Code 61-53

IDEM Staff	GHOTOPP 5/15/2012 Nucor Steel 107-31415-00038 Final			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Magie Read P.O. Box 248 Battle Ground IN 47920 (Affected Party)									
2		Montgomery County Commissioner 110 West South Boulvard Crawfordsville IN 47933 *(Local Official)*									
3		Mr. Herbert Weidemann Environmental Resources Management (ERM) One Continental Towers, 1701 Golf Road Suite 1000 Rolling Meadows IL 60540 *(Consultant)*									
4		Crawfordsville District Public Library 222 South Washington Street Crawfordsville IN 47933 *(Library)*									
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Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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