

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL

PERMIT SECTION

PROJECT SUMMARY for the
DRAFT CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

Nucor Steel Kankakee, Inc.
One Nucor Way, Bourbonnais, Kankakee County, 60914-4127

Illinois EPA ID Number: 091801AAA

Application Number: 96030147

Application Type: Renewal

Start of Public Comment Period: February 24, 2009

Close of Public Comment Period: March 26, 2009

Permit Engineer/Technical Contact: Anatoly Belogorsky, 217/782-2113

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(This Project Summary generally describes the source and explains the draft permit. This document has been prepared pursuant to Section 39.5(8)(b) of the Illinois Environmental Protection Act, which requires "a statement that sets forth the legal and factual basis for the draft CAAPP permit conditions.")

I. INTRODUCTION

This source has applied for a renewal of the Clean Air Act Permit Program (CAAPP) operating permit. The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of Illinois' Environmental Protection Act. The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the USEPA, and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source.

II. GENERAL SOURCE DESCRIPTION

a. Nature of source

The Nucor Steel Kankakee, Inc is located at One Nucor Way in Bourbonnais, Illinois. The source is a steel mill that manufactures steel rod and other products.

b. Ambient air quality status for the area

This source is located in an area that is designated as attainment for all criteria pollutants.

c. Major source status

This permit is issued based on the source requiring a CAAPP permit as a major source NO_x, PM, CO, SO₂, and VOM emissions.

d. Source Emissions

The following table lists actual annual emissions of criteria pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

Pollutant	Annual Emissions (tons)				
	2003	2004	2005	2006	2007
CO	318.41	No data available	370.9	398.13	387.59
NOx	134.0	No data available	159.8	83.35	77.77
PM	36.11	No data available	41.68	44.41	62.44
SO ₂	111.54	No data available	41.68	54.41	131.75
VOM	138.58	No data available	148.32	165.32	146.40
Lead	0.17	No data available	0.18	0.2	0.2

III. NEW SOURCE REVIEW / TITLE I CONDITIONS

This draft permit contains terms and conditions that address the applicability of permit programs for new and modified sources under Title I of the Clean Air Act (CAA) and regulations promulgated thereunder, including 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the draft permit by T1, T1R, or T1N. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this draft permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. Where the source has requested that the Illinois EPA establish new conditions or revise such conditions in a Title I permit, those conditions are consistent with the information provided in the CAAPP application and will remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

This draft permit would establish Title I requirements carried over from the PSD construction permits 07120005 and 04100024 issued after initial CAAPP permit was in place. The affected EAF underwent PSD permitting for VOM and SO₂ emissions in 2007 (Permit 04100024); and for CO and SO₂ in 2009 (07120005). These construction permits have established Best Available Control Technology (BACT) requirements for those projects. Specifically, for CO, SO₂ and VOM emissions BACT were established at 2.0 lb/ton, 0.5 lb/ton and 0.28 lb/ton of steel produced, respectively. Construction permit 07120005 establishes the following new production and emission limits for the operation of EAF associated with this project and incorporated into the CAAPP renewal:

- a. The production of steel of the affected EAF: 140 tons per hour and 1,100,000 tons per year.
- b. Emissions from the affected EAF:

Pollutant	Limit		
	Lbs/Hour	Lbs/Ton	Tons/Year
VOM	39.2	0.28	154.8
SO ₂	70.0	0.50	275.8
PM	22.78	0.163	89.5
CO	280.0	2.0	1100.0
NO _x	37.1	0.26	145.8

IV. COMPLIANCE INFORMATION

The source has certified compliance with all applicable rules and regulations; therefore, a compliance schedule is not required for this source. In addition, the draft permit requires the source to certify its compliance status on an annual basis. Also, the Annual Emission Reports and latest inspection report have been reviewed which indicate compliance.

V. PROPOSED ILLINOIS EPA ACTION / REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft or proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft or proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are not based on applicable requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

ATTACHMENT 1: Summary of Source-Wide Requirements

- a. The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	Applicable
Emissions Reduction Market System (ERMS)	N/A
Nitrogen Oxides (NO _x) Trading Program	N/A
Acid Rain Program	N/A
Fugitive Particulate Matter (PM) Operating Program	N/A
Risk Management Plan (RMP)	N/A
PM ₁₀ Contingency Measure Plan	N/A

- b. The following table indicates source-wide site-specific requirements addressed in Section 5 of the draft permit.

Non-Applicable Rules and Requirements w/justification
Source-wide non-applicability of regulations of concern are not set for this source
Title I Conditions and/or Synthetic Minor Limits
• N/A
Testing, Monitoring and Recordkeeping

• <u>Testing:</u> General testing requirements
• <u>Monitoring:</u> None
• <u>Recordkeeping:</u> General recordkeeping requirements

ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsection, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit	
Name	Electric Arc Furnace (EAF); Continuous Caster
Description	Charging of metal scrap, melting, refining, casting
Date Constructed	1986 (Caster); 1989 (EAF)
Emission Control Equipment	Two baghouses
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.321(a) • 35 IAC 212.123(a) • 35 IAC 214.301 • 40 CFR 60.272a (Subpart AAa) • 40 CFR Part 63 Subpart YYYYY • PSD Permit 04100024 • PSD Permit 07120005
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • T1 conditions being carried over from PSD permits 04100024 and 07120005 (see Section III of this document) • T1 conditions for baghouse #2 being carried over from construction permit 04060012.
Other Emission Limits	<ul style="list-style-type: none"> • PM - 0.0052 gr/dscf, exit from a control device [40 CFR 63.10686(b)(1)]; • 6% opacity, exit from a melt shop [40 CFR 63.10686(b)(2)]
Non-applicability (reason)	Back leak detection system for EAF's baghouse is not required because this baghouse is a positive-pressure one
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Testing of the major air pollutants associated w/operation of EAF is required to be done within 365 days of commencement of EAF and every 5 years at the time of CAAPP renewal. • Daily observations of visible emissions
Emissions Monitoring	<ul style="list-style-type: none"> • Daily observations of visible emissions

Operational Monitoring	<ul style="list-style-type: none"> • Static pressure and control system fan motor amperes and damper position, in accordance with 40 CFR 60.274(a); or monitoring for volumetric flow through each separately ducted hood or monitoring for volumetric flow rate at the control device inlet. • Fan motor amperes • Monitor the capture system and PM control device required by Subpart YYYYY in accordance with the submitted CAM plan (Subpart YYYYY does not exclude affected EAF from the CAM requirements) • Monitoring of scrap composition through implementation of a scrap pollution prevention plan required by Subpart YYYYY
Inspections	<ul style="list-style-type: none"> • Weekly inspections (capture system) and monthly inspections of control device
Recordkeeping	<ul style="list-style-type: none"> • Records required by PSD Permit 07120005 (production, maintenance, emissions) • Records required by Subpart YYYYY (related to processed scrap) • CAM records
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • Control of contaminants from scrap (Subpart YYYYY) • Test reports and semi-annual exceedance reports • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • Semiannual reports required by Subpart YYYYY may be combined with a generic semiannual monitoring required by Condition 8.6.1
Other Information	
Footnotes	N/A

Table 2 (Section 7.2 of the draft permit)

Emission Unit	
Name	Reheat Furnace
Description	Billets are individually pushed through the natural gas-fired furnace attain sufficiently high temperature to be rolled into rebar or other merchant products. The residence time in the reheat furnace is about 1 hour and a final temperature of approximately 2300 ^o F
Date Constructed	2004
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.321(a) • 35 IAC 214.301 • 35 IAC 216.121
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • T1 conditions being carried over from construction permit 04060017.
Other Emission Limits	N/A
Non-applicability (reason)	<ul style="list-style-type: none"> • 40 CFR Part 64 (CAM): no control is utilized
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • NOx emissions (upon the Illinois EPA request)
Emissions Monitoring	<ul style="list-style-type: none"> • N/A
Operational Monitoring	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Records of natural gas usage • Records of emissions released
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • N/A

Other Information	
Footnotes	N/A

Table 3 (Section 7.3 of the draft permit)

Emission Unit	
Name	EAF Dust Handling
Description	Electric arc furnace dust is collected and transferred by screw conveyors to railroad cars
Date Constructed	1989
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.321(a) • 40 CFR 60.272a(b) (Subpart AAa)
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • T1R condition, reflects recent production increase
Other Emission Limits	N/A
Non-applicability (reason)	<ul style="list-style-type: none"> • 40 CFR Part 64 (CAM) - no control is utilized
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • Quarterly test of visible opacity emissions
Emissions Monitoring	<ul style="list-style-type: none"> • N/A
Operational Monitoring	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Records of amount of dust shipped • Records of emissions released • Records of the visible opacity observations
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> • N/A

Other Information	
Footnotes	N/A

Table 4 (Section 7.4 of the draft permit)

Emission Unit	
Name	Slag Processing
Description	Slag from the arc furnace is removed from the melt shop, taken to the processing site, sized and transported.
Date Constructed	1987
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.321(a) • 35 IAC 212.301
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • T1 conditions being carried over from initial CAAPP
Other Emission Limits	N/A
Non-applicability (reason)	<ul style="list-style-type: none"> • 40 CFR Part 64 (CAM) - no control is utilized
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • N/A
Emissions Monitoring	<ul style="list-style-type: none"> • N/A
Operational Monitoring	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Records of amount of slag processed • Records of emissions released
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> • See also Attachment 3 for Prompt Reporting of Deviations

Other Reporting	<ul style="list-style-type: none"> N/A
Other Information	
Footnotes	N/A

Table 5 (Section 7.5 of the draft permit)

Emission Unit	
Name	Gasoline Storage Tanks
Description	Gasoline storage tanks (3) are used for on-site dispensing operations
Date Constructed	1988
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> 35 IAC 215.122 (b)
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> T1 conditions being carried over from initial CAAPP
Other Emission Limits	N/A
Non-applicability (reason)	<ul style="list-style-type: none"> 40 CFR Part 64 (CAM) - no control is utilized
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> N/A
Emissions Monitoring	<ul style="list-style-type: none"> N/A
Operational Monitoring	<ul style="list-style-type: none"> N/A
Inspections	<ul style="list-style-type: none"> N/A
Recordkeeping	<ul style="list-style-type: none"> Records of gasoline throughput Records of emissions released
Reporting	
Prompt Reporting	<ul style="list-style-type: none"> See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> N/A

Other Information	
Footnotes	N/A

Table 6 (Section 7.6 of the draft permit)

Emission Unit	
Name	Fugitive Emissions
Description	The source has various processes that generate fugitive dust emissions (e.g. storage pile, roads, etc.).
Date Constructed	N/A
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 212.301
Streamlining	N/A
Title I Conditions	<ul style="list-style-type: none"> • T1/T1R conditions being changed over from initial CAAPP, allowable fugitive emissions have been increased
Other Emission Limits	N/A
Non-applicability (reason)	<ul style="list-style-type: none"> • 40 CFR Part 64 (CAM) - no control is utilized
Periodic Monitoring (other than basic regulatory requirements)	
Testing	<ul style="list-style-type: none"> • N/A
Emissions Monitoring	<ul style="list-style-type: none"> • N/A
Operational Monitoring	<ul style="list-style-type: none"> • N/A
Inspections	<ul style="list-style-type: none"> • N/A
Recordkeeping	<ul style="list-style-type: none"> • Records of amount of throughput for aggregate handling • Aprox. truck mileage across the source property • Records of emissions released
Reporting	

Prompt Reporting	<ul style="list-style-type: none"> See also Attachment 3 for Prompt Reporting of Deviations
Other Reporting	<ul style="list-style-type: none"> N/A
Other Information	
Footnotes	N/A

ATTACHMENT 3: Prompt Reporting of Deviations

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a permittee's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define "prompt" in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be "prompt" as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. *Id.* The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains "prompt" reporting, this frequency or a shorter frequency of reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit

(specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual "monitoring" reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual reports, so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and preceded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

These prompt reporting decisions reflect the Illinois EPA's consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations which include but are not limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA's decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)
- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)
- Policy Statement typically referred to as the "Audit Policy" published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most "pollutant limiting" related conditions)
- Responses to various States by USEPA regarding other States' definition of prompt.

As a result, the Illinois EPA's approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.