

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT¹

PERMITTEE

Keystone Steel and Wire Company
Attn: Russell Perry
7000 S. W. Adams Street
Peoria, Illinois 61641

Application No.: 95120288

I.D. No.: 143808AAA

Applicant's Designation:

Date Received: December 22, 1995

Operation of: Steel Mill

Date Issued: November 26, 2003

Expiration Date²: November 26, 2008

Source Location: 7000 S. W. Adams Street, Peoria, Illinois, 61641

Responsible Official: David Cheek/CEO and President of Keystone Steel and Wire Company

This permit is hereby granted to the above-designated Permittee to OPERATE a Steel Mill, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Darin Clutts at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:DCC:psj

cc: Illinois EPA, FOS, Region 2
CES
Lotus Notes

¹ This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

² Except as provided in Condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Keystone Steel and Wire Company
7000 S. W. Adams Street
Peoria, Illinois 61641
309/697-7538

I.D. No.: 143808AAA
Standard Industrial Classification: 3315, Steel and Wire Products
3312, Secondary Steel

1.2 Owner/Parent Company

Keystone Consolidated Industries, Inc.
3 Lincoln Center
5430 LBJ Freeway, Suite 1700
Dallas, Texas 75240

1.3 Operator

Keystone Steel and Wire Company
7000 S. W. Adams Street
Peoria, Illinois 61641

Russell Perry, Manager Environmental Engineering
309/697-7538

1.4 General Source Description

Keystone operates a steel works, mid mill, and wire mill that is located just south of Peoria, Illinois in the community of Bartonville, Illinois. The site is located within Sections 25 and 36 of Township 8 North, Range 7 East, and Sections 31 of Township 8 North Range 8 East.

The Steel Works produces low carbon coiled steel rod from steel and iron scrap. The scrap is melted in a 180-ton capacity AC electric arc furnace (EAF) and refined in a Ladle Metallurgy Furnace (LMF) in the Arc Shop. The hot metal is then cast into 5"x5"x50' billets in the Continuous Caster. The billets are then reheated and rolled into rod coils in the Rod Mill.

The mid mill and wire mill produce wire and wire products from the rod produced at the steel works. A wide variety of industrial wire, fencing, wire panels, wire fabric, netting, barbed wire, and nails are manufactured at this location.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BAT	Best Available Technology
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
ERMS	Emissions Reduction Market System
HAP	Hazardous Air Pollutant
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
kW	kilowatts
LAER	Lowest Achievable Emission Rate
lb	pound
MACT	Maximum Achievable Control Technology
mmBtu	Million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
scf	Standard Cubic Feet
SO ₂	Sulfur Dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

None

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Arc Shop Raw Material Silos and Elevators
WWTP Lime Silo and Slaker
Slag Pots
Tundish Dryer
Muffle Annealers
Hydrochloric Acid Storage Tanks
Sulfuric Acid Storage Tanks

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Furnaces used for melting metals, other than beryllium, with a brim full capacity of less than 450 cubic inches by volume [35 IAC 201.210(a)(6)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Printing operations with aggregate organic solvent usage that never exceeds 750 gallons per year from all printing lines at the source, including organic solvent from inks, dilutents, fountain solutions, and cleaning materials [35 IAC 201.210(a)(14)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.

3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.

3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description	Date Constructed	Emission Control Equipment
Arc Shop	- Electric Arc Furnace - Ladle Metallurgical Furnace - Ladle Metallurgical Station	April, 1987	Direct-Shell Evacuation and Ceiling Canopy to Baghouse
Ladle Preheaters	- Ladle Preheater No. 1 - Ladle Preheater No. 2 - Ladle Fork Preheater - Open Hearth Ladle Dryer		None
Sequence Caster	- Tundish Preheater No. 1 - Tundish Preheater No.2 - Sequence Caster - Cutting Torches		None
Steel Works Rod Mill	- Rod Mill Reheat Furnace - Rod Rolling Mill	April, 1987 April, 1987	Low NO _x Burners
Steam Plant	- Boiler No. 1 (Fuel Oil) - Boiler No. 3 (Natural Gas)	January, 1973 January, 1973	None
Gasoline Storage	- 10,000 Gallon Underground Storage Tank - 1500 Gallon Aboveground Storage Tank - 2500 Gallon Underground Storage Tank		Submerge Fill and Vapor Balance System Submerge fill and vapor balance system Submerge fill and vapor balance system
Rod Coil Cleaning	- Circular Cleaning No.1 - In-Line Cleaning No. 3		None
Wire Galvanizing	- Wire Galvanizing Frame 5 - Wire Galvanizing Frame 7 - Wire Galvanizing Frame 8 - Wire Galvanizing Frame 9 - Wire Galvanizing Frame 11 - Wire Galvanizing Frame 14 - Wire Galvanizing Frame 15	Pre 1980 May, 1995 Pre 1980 Pre 1980 Pre 1980 Pre 1980	Water Curtain Scrubber Water Curtain Water Curtain None Water Curtain Water Curtain
Nail Galvanizing	- Hot Nail Galvanizing Unit 3 - Hot Nail Galvanizing Unit 4 - Hot Nail Galvanizing Unit 5 - Hot Nail Galvanizing Unit 7		None
Galvanizing Afterweave	- Galvanizing Afterweave	Pre 1980	Demister
Coating Operations	- Green Nail Coating - Stockade Panel Coating - Wire Paint Wipe Frame 5 - Wire Paint Wipe Frame 11 - Wire Paint Wipe Frame 15 - Keymesh Painting		None None None None None None
Air Stripper	- Air Stripper		None
Fugitive PM Emissions	- Storage Piles - Unpaved Roadways and Lots - Paved Roadways - Parking Lots	---	None Water and Surfactant Spray Street Sweeper Street Sweeper

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

- 5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of CO, NO_x, PM, SO₂, VOM and HAP emissions.
- 5.1.2 For purposes of the CAAPP, Keystone Steel and Wire is considered a single source with International Mill Service, I.D. No. 143812AAJ, located at Keystone Steel and Wire. The source has elected to obtain separate CAAPP permits for these locations.

5.2 Applicable Regulations

- 5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.
- 5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:
 - a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
 - b. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- 5.2.3 Fugitive Particulate Matter Operating Program
 - a. This source shall be operated under the provisions of an operating program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)].
 - b. The operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].

- c. All normal traffic pattern roads and parking facilities located at this source shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils, or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program [35 IAC 212.306].

5.2.4 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.2.5 Risk Management Plan

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in 40 CFR Part 68, then the owner or operator shall submit [40 CFR 68.215(a)(2)(i) and (ii)]:

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.

- 5.2.6 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

- b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

5.2.7 Episode Action Plan

- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
- c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.
- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:
 - i. Illinois EPA, Compliance Section; and
 - ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or
 - iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

5.2.8 CAM Plan

This stationary source has a pollutant-specific emissions unit that is subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The source must submit a CAM plan for each affected pollutant-specific emissions unit upon application for renewal of the initial CAAPP permit, or upon a significant modification to the CAAPP permit for the construction or modification of a large pollutant-specific emissions unit which has the potential post-control device emissions of

the applicable regulated air pollutant that equals or exceeds major source threshold levels.

5.3 Non-Applicability of Regulations of Concern

5.3.1 This permit is issued based on the source not being subject to 40 CFR 63, Subpart CCC, National Emission Standards for Hazardous Air Pollutants for Steel Pickling - HCl Process Facilities and Hydrochloric Acid Regeneration Plants because the hydrochloric acid baths on the galvanizing lines that prepare and activate the steel surface prior to galvanizing is exempt from the definition of steel pickling pursuant to 40 CFR 63.1156.

5.3.2 This permit is issued based on the source not being subject to 40 CFR 63, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products because the surface coating conducted at this source uses only coatings, thinners, and cleaning materials that contain no organic HAPs which are not subject to Subpart MMMM pursuant to 40 CFR 63.3881(c)(1).

5.3.3 This permit is issued based on the source not being subject to 40 CFR 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries because the source is not an Iron or Steel Foundry as defined in 40 CFR 63.7762.

5.3.4 This permit is issued based on the source not being subject to 40 CFR 63, Subpart FFFFF, National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities because the source is not an Integrated Iron and Steel Manufacturing Facility as defined in 40 CFR 63.7852.

5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the

purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	83.04
Sulfur Dioxide (SO ₂)	105.64
Particulate Matter (PM)	338.99
Nitrogen Oxides (NO _x)	631.12
HAP, not included in VOM or PM	37.89
Total	1,196.67

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 The Permittee shall maintain records of HAP emissions for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

- a. The annual emissions of individual HAPs for each month of the previous calendar year as a 12 month running total in tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all); and
- b. The total annual emissions of all HAPs combined for each month of the previous calendar year as a 12 month running total in tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all).

5.6.3 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

- a. The annual emissions of individual HAPs for each month of the previous calendar year as a 12 month running total in tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all); and
- b. The total annual emissions of all HAPs combined for each month of the previous calendar year as a 12 month running total in tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all).

5.8 General Operational Flexibility/Anticipated Operating Scenarios

The source may operate in accordance with the conditions of Construction Permit 99020046 which have been attached hereto as Attachment 10.7 and incorporated herein by reference upon completion of the applicable physical and operational improvements to the Arc Shop, including a compliance demonstration from a valid performance test as required by Condition 20 of Construction Permit 99020046. A revision of this permit shall be applied for upon completion of a valid performance test.

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and Compliance Procedures in Section 7 (Unit Specific Conditions) of this permit.

6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

7.1 Arc Shop

7.1.1 Description

The Arc Shop consists of an electric arc furnace (EAF) with four oxy-fuel burners, a ladle metallurgical furnace (LMF) and a ladle metallurgical station (LMS). During the melting and refining stages, the EAF and LMF are controlled by a direct-shell evacuation control (DEC) that vents to two positive pressure baghouses. The EAF, LMF and LMS are located under a ceiling canopy that vents to the baghouses and controls emissions during charging, tapping and stirring for those respective processes at the EAF, LMF or LMS. Also, the ceiling canopy acts as a secondary capture system for those emissions that escape the DEC.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
EAF	Electric Arc Furnace With Four Oxy-Fuel Burners Where Scrap Metal is Melted in Stages That Include Charging, Melting, Refining, Slagging and Tapping.	A DEC and Ceiling Canopy Vented to Two Positive Pressure Baghouses
LMF	Ladle Metallurgical Furnace Where Steel is Maintained in the Molten State for Further Refining.	A DEC and Ceiling Canopy Vented to Two Positive Pressure Baghouses
LMS	Ladle Metallurgical Station for Stirring and Minor Additive Addition When There is a Bottleneck at the LMF.	A Ceiling Canopy Vented to Two Positive Pressure Baghouses

7.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected EAF, affected LMF and affected LMS" for the purpose of these unit-specific conditions, are those emission units described in Conditions 7.1.1 and 7.1.2.
- b. The affected EAF, LMF and LMS are subject to the opacity limits identified in Condition 5.2.2(b), however, a more stringent limit may apply in this section.
- c. The LMF and LMS are subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322, however, a more stringent limit in this section may apply. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.

- d. The affected EAF is subject to 35 IAC 212.448 which states:

The total particulate emissions from meltdown and refining, charging, tapping, slagging electrode port leakage and ladle lancing shall not exceed the allowable emission rate specified by Section 212.321 or 212.322 of this Part, whichever is applicable [35 IAC 212.448].

35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively, however a more stringent limit in this section may apply.

- e. The affected EAF, LMF and LMS are subject to 35 IAC 214.301 which states:

Except as further provided by this Part, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm [35 IAC 214.301].

- f. The affected EAF including the transformer, the capture and control system, and dust handling system are subject to a New Source Performance Standard (NSPS), 40 CFR 60, Subpart A and AAa for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

- i. No owner or operator shall cause to be discharged into the atmosphere from an affected EAF any gases which [40 CFR 60.272a(a)]:

- A. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);
- B. Exit from a control device and exhibit 3 percent opacity or greater; and
- C. Exit from a shop and, due solely to operations of any affected EAF(s) exhibit 6 percent opacity or greater.

- ii. No owner or operator shall cause to be discharged into the atmosphere from the dust-handling system associated with an affected EAF any gases that exhibit 10 percent opacity or greater [40 CFR 60.272a(b)].

g. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of any Arc Shop related equipment, the Permittee is authorized to continue operation of the affected EAF, LMF and LMS in violation of the applicable Opacity and PM standard of Conditions 7.1.3(b), 7.1.3(c) and 7.1.3(d), as necessary to prevent risk of injury to personnel or severe damage to equipment [35 Ill. Adm. Code, Part 201, Subpart I]. This authorization is subject to the following requirements:

- i. The emission units may continue to operate until the processing of material in progress is complete.
- ii. Reasonable measures shall be taken to minimize emissions during the malfunction or breakdown.

7.1.4 Non-Applicability of Regulations of Concern

N/A

7.1.5 Operational and Production Limits and Work Practices

- a. Arc Shop (includes affected EAF, LMF and LMS) steel production shall not exceed 78,583 hot metal tons per month and 820,000 hot metal tons per year. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- b. At all times, the Permittee shall, to the extent practicable, maintain and operate the affected EAF, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions [40 CFR 60.11(a)].

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the Arc Shop (includes affected EAF, LMF and LMS) emissions shall not exceed the following limits:

Pollutant	Emission Factor		E M I S S I O N S	
	(Lb/Ton Steel Produced)		(Tons/Mo)	(Tons/Yr)
PM	Baghouse Vents	0.21	8.25	86.10
	Roof Monitor	0.14	5.50	57.40
PM ₁₀	Baghouse Vents	0.16	6.29	65.60
	Roof Monitor	0.11	4.32	45.10
Pb	Baghouse Vents	0.005	0.20	2.05
	Roof Monitor	0.003	0.12	1.23
CO	Baghouse Vents	1.34	52.65	549.40
NO _x	Baghouse Vents	0.65	25.54	266.50

VOM Baghouse Vents 0.13 5.11 53.30
The limits for PM, PM₁₀, Pb, CO, NO_x, and VOM are based on the maximum monthly and annual steel production limits of Condition 7.1.5(a) and the stack test conducted February 1999 on the Arc Shop. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above limitations for CO, NO_x, and VOM were established in Permit 97060082, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

The above limitations for PM, PM₁₀, and Pb were established in Permit 98070096, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.1.7 Testing Requirements

- a. Upon request by the Illinois EPA under section 114 of the act, the Permittee shall have performance test(s) conducted and furnish the Illinois EPA a written report of the results of such performance test(s).
- b. i. The following methods and procedures shall be used for testing of particulate matter emissions and opacity:
 - A. Method 5 shall be used for negative pressure fabric filters and other types of control devices and Methods 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 4.5 dscm (160 dscf) and, when a single EAF or AOD vessel is sampled, the sampling time shall include an integral number of heats.
 - B. Method 9 and the procedures of 40 CFR 60.11 shall be used to determine opacity.
 - C. To demonstrate compliance with 40 CFR 60.272(a)(1), (2), and (3), test runs

shall be conducted concurrently, unless inclement weather interferes.

- ii. The following methods and procedures shall be used for testing emissions of pollutants other than particulate matter. Refer to 40 CFR 60, Appendix A for USEPA test methods.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Particulate Matter	USEPA Method 5D
PM ₁₀	USEPA Method 201 or 201A
Nitrogen Oxides	USEPA Method 7
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Lead	USEPA Method 12
Volatile Organic Material	USEPA Method 25A
Sulfur Dioxide	USEPA Method 6, 6a, 6b, or 6c

- c. At least 60 days prior to the actual date of testing, a written test plan shall be submitted to the Illinois EPA for review and approval. The plan shall describe the specific procedures for testing including as a minimum:
 - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum emissions, the levels of operating parameters at or within which compliance is intended to be shown, if parameters for the process and any control equipment will be determined.
 - iii. The specific determination of emissions and operations which are intended to be made, including sampling and monitoring locations.
 - iv. The test methods which will be used, with the specific analysis method.
 - v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - vi. A statement that the testing will be performed by a qualified independent testing service.
- d. Prior to carrying out these tests, the Illinois EPA shall be notified a minimum of thirty (30) days prior

to the scheduled date of these tests with the exact date, time and place of these tests, to enable the Illinois EPA to witness these tests.

- e. If the scheduled date for the test is changed the Permittee shall inform the Illinois EPA within five working days of the scheduled test date and must specify the date of the rescheduled test.
- f. A copy of the Final Reports for these tests and compliance status shall be submitted to the Illinois EPA within fourteen days after the test results are compiled and finalized, prior to or accompanying the operating permit application. Satisfactory completion of these tests and compliance with the limitations of this permit shall be prerequisite to the issuance of an operating permit.

7.1.8 Monitoring Requirements

- a. The Permittee shall perform the following emission monitoring requirements:
 - i. Except as provided under Condition 7.1.8(a)(ii) and Condition 7.1.8(a)(iii), 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 [40 CFR 60.273a(a)].
 - ii. No continuous monitoring system shall be required on any control device serving the dust-handling system [40 CFR 60.273a(b)].
 - iii. A continuous monitoring system for the measurement of opacity is not required on modular, multiple-stack, negative-pressure or positive pressure fabric filters if the visible emissions from the control device are performed by a certified visible emission observer as follows: Visible emission observations are conducted at least once per day when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, 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 40 CFR 60.272a(a) [40 CFR 60.273a(c)].

- iv. 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 [40 CFR 60.273a(d)].
- b. The Permittee shall perform the following monitoring of operations requirements:
 - i. The owner or operator shall maintain records of the following information:
 - A. All data obtained under Condition 7.1.8(b) (ii) [40 CFR 60.274a(a) (2)]; and
 - B. All monthly operational status inspections performed under Condition 7.1.8(b) (iii) [40 CFR 60.274a(a) (2)].
 - ii. Except as provided under Condition 7.1.8a(iv), the owner or operator 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 Condition 7.1.8(b) (vi) 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 [40 CFR 60.274a(b)].

- iii. When the owner or operator is required to demonstrate compliance with the standards under 40 CFR 60.272a(a)(3) and at any other time the Administrator may require that (under section 114 of the Act, 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 Condition 7.1.8(b)(ii). 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 40 CFR 60.276a(c) [40 CFR 60.274a(c)].
- iv. 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 holds in ductwork or hoods, flow constrictions cause by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed [40 CFR 60.274a(d)].
- v. The owner or operator may petition the Administrator to approve any alternative to

monthly operational status inspections that will provide a continuous record of the operation of each emission capture system [40 CFR 60.274a(e)].

- vi. During any performance test required under 40 CFR 60.8, and for any report thereof required by 40 CFR 60.275a(d), or to determine compliance with 40 CFR 60.272a(a)(3), the owner or operator shall monitor the following information for all heats covered by the test [40 CFR 60.274a(h)]:
 - A. Charge weights and materials, and tap weights and materials [40 CFR 60.274a(h)(1)];
 - B. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing [40 CFR 60.274a(h)(2)];
 - C. Control device operation log [40 CFR 60.274a(h)(3)]; and
 - D. Continuous monitor or Reference Method 9 data [40 CFR 60.274a(h)(4)].

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the Arc Shop (includes affected EAF, LMF and LMS) to demonstrate compliance with Conditions 5.5.1, 7.1.3, 7.1.5 and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of steel production in hot metal tons per fiscal month and hot metal tons per year. A fiscal month is measured as four weeks (28 days) or five weeks (35 days).
- b. The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of the affected EAF, LMF and LMS subject to applicable Opacity and PM standard of Conditions 7.1.3(b), 7.1.3(c) and 7.1.3(d) during malfunctions and breakdown of the control features of the affected EAF, LMF and LMS, which as a minimum, shall include:
 - i. Date and duration of malfunction or breakdown;
 - ii. A detailed explanation of the malfunction or breakdown;
 - iii. An explanation why the damaged feature(s) could not be immediately repaired or the affected EAF, LMF and LMS removed from service

without risk of injury to personnel or severe damage to equipment;

- iv. The measures used to reduce the quantity of emissions and the duration of the event;
 - v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
 - vi. The amount of release above typical emissions during malfunction/breakdown.
- c. The Permittee shall maintain records for the affected EAF of the measurements required in 40 CFR 60.274a, i.e., Condition 7.1.8 [40 CFR 60.276a(a)] which include:
- i. Records of the air pollution control inlet volumetric flow rate in accordance with 40 CFR 60.274a(b);
 - ii. Records of the damper positions in accordance with 40 CFR 60.274a(b) and (c);
 - iii. Records of control device fan motor amperage in accordance with 40 CFR 60.274a(b) and (c), and
 - iv. All monthly operational status inspections performed under 40 CFR 60.274c.
- d. Records of emissions in tons per fiscal month and tons per year. A fiscal month is measured as four weeks (28 days) or five weeks (35 days).

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected EAF, LMF and LMS with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Reporting of Malfunctions and Breakdowns for affected EAF, LMF and LMS.

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of the affected EAF, LMF and LMS subject to Condition 7.1.3(c) during malfunction or breakdown of the control features of the affected EAF, LMF and LMS.

- i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction or breakdown.
 - ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected EAF, LMF and LMS was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected EAF, LMF and LMS was taken out of service.
 - iii. If compliance is not achieved within 5 working days of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the affected EAF, LMF and LMS will be taken out of service.
- b. The affected EAF is subject to the reporting requirements of 40 CFR 60.276a which states:
- i. 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 [40 CFR 60.276a(b)].
 - ii. Operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under 40 CFR 60.274a(c) or operation at flow rates lower than those established under 40 CFR 60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually [40 CFR 60.276a(c)].
 - iii. 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 [40 CFR 60.276a(d)].

- iv. When the owner or operator of an EAF or AOD is required to demonstrate compliance with the standard under 40 CFR 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 30 days prior to the performance test [40 CFR 60.276a(e)].
- v. For the purpose of this subpart, the owner or operator shall conduct the demonstration of compliance with 40 CFR 60.272a(a) and furnish the Administrator a written report of the results of the test. This report shall include the following information [40 CFR 60.276a(f)]:
 - A. Facility name and address;
 - B. Plant representative;
 - C. Make and model of process, control device, and continuous monitoring equipment;
 - D. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
 - E. Rated (design) capacity of process equipment;
 - F. Those data required under §60.274a(h) of this subpart;
 - 1. List of charge and tap weights and materials;
 - 2. Heat times and process log;
 - 3. Control device operation log; and
 - 4. Continuous monitor or Reference Method 9 data.
 - G. Test dates and test times;

- H. Test company;
 - I. Test company representative;
 - J. Test observers from outside agency;
 - K. Description of test methodology used, including any deviation from standard reference methods;
 - L. Schematic of sampling location;
 - M. Number of sampling points;
 - N. Description of sampling equipment;
 - O. Listing of sampling equipment calibrations and procedures;
 - P. Field and laboratory data sheets;
 - Q. Description of sample recovery procedures;
 - R. Sampling equipment leak check results;
 - S. Description of quality assurance procedures;
 - T. Description of analytical procedures;
 - U. Notation of sample blank corrections; and
 - V. Sample emission calculations.
- c. The owner or operator shall maintain records of all shop opacity observations made in accordance with 40 CFR 60.273a(d). All shop opacity observations in excess of the emission limit specified in 40 CFR 60.272a(a) (3) shall indicate a period of excess emission, and shall be reported to the administrator semi-annually, according to 40 CFR 60.7(c) [40 CFR 60.276a(g)].
 - d. The Permittee shall promptly notify the Illinois EPA, Compliance Section of any other exceedance with the emission limitation in the permit of the affected furnaces with the permit requirements. These reports shall be submitted within 30 days of the exceedance and shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
 - e. Two copies of required reports and notifications concerning equipment operation or repairs, performance testing or continuous monitoring systems shall be sent to:

Illinois Environmental Protection Agency
 Division of Air Pollution Control
 Compliance Section (#40)
 P.O. Box 19276

Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

- a. Compliance with Condition 7.1.3(b), 7.1.3(c), 7.1.3(d) and 7.1.3(f) is demonstrated by the monitoring requirements in Condition 7.1.8.
- b. Compliance with Condition 7.1.3(e) shall be demonstrated by the testing requirements in Condition 7.1.7(b) (ii).
- c. Compliance with Condition 7.1.5(a) is demonstrated by the recordkeeping requirement of Condition 7.1.9(a).
- d. Compliance with the emission limits in Conditions 5.5 and 7.1.6 shall be based on the recordkeeping requirements in Condition 7.1.9 and the emission factors and formulas listed below:
 - i. Emission factors for the baghouse vent of the Arc Shop (includes EAF, LMF and LMS):

<u>Pollutant</u>	<u>Emission Factors</u>	
	<u>(Lb/Ton Steel Produced)</u>	
PM		0.21
PM ₁₀		0.16
Pb		0.005
CO		1.34
SO ₂		0.25
NO _x		0.65
VOM		0.13

The emission factors for PM, PM₁₀ and Pb were established in Permit 98070096 and confirmed by the performance test conducted February 1999.

The emission factors for CO, NO_x and VOM were established in Permit 97060082 and confirmed by the performance test conducted February 1999.

The emission factor for SO₂ was provided by the source and is based on previous monitoring data.

- ii. Emission factors for the roof monitor of the Arc Shop (includes EAF, LMF and LMS):

<u>Pollutant</u>	<u>Emission Factors (Lb/Ton Steel Produced)</u>
PM	0.14
PM ₁₀	0.11
Pb	0.003

The emission factors for PM, PM₁₀ and Pb were established in Permit 98070096 and confirmed by the performance test conducted February 1999.

- iii. Emission formula for the Arc Shop (includes EAF, LMF and LMS):

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton) x (Tons of Steel Produced)

7.2 Ladle Preheaters

7.2.1 Description

Ladles are preheated prior to pouring of molten steel so the cast will not solidify. These emission units include ladle preheater No. 1 (LPH 1), ladle preheater No. 2 (LPH 2), ladle fork preheater (LFPH), and open hearth ladle dryer (OHLD)

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
LPH 1	Ladle Preheater No. 1	None
LPH 2	Ladle Preheater No. 2	None
LFPH	Ladle fork preheater	None
OHLD	Open hearth ladle dryer	None

7.2.3 Applicability Provisions and Applicable Regulations

- a. The "affected LPH 1, affected LPH 2, affected LFPH and affected OHLD" for the purpose of these unit-specific conditions, are units described in Conditions 7.2.1 and 7.2.2.
- b. Each affected LPH 1, LPH 2, LFPH, and OHLD are subject to the emission limits identified in Condition 5.2.2(b).

7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected LPH 1, LPH 2, LFPH, and OHLD not being subject to 35 IAC 216.121, because the affected LPH 1, LPH 2, LFPH, and OHLD are not defined as fuel combustion emission sources pursuant to 35 IAC 211.2470.
- b. This permit is issued based on the affected LPH 1, LPH 2, LFPH, and OHLD not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected LPH 1, LPH 2, LFPH, and OHLD are not subject to an emission limitation or standard for the applicable regulated air pollutant.

7.2.5 Operational and Production Limits and Work Practices

Natural gas usage for the affected LPH 1 and LPH 2 shall not exceed 18,823,200 scf per month and 188,496,000 scf per year. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected LPH 1 and LPH 2 are subject to the following:

- a. Emissions from the affected LPH 1 and LPH 2 shall not exceed the following limits:

Pollutant	Emission Factor (Lb/mmscf)	E M I S S I O N S	
		(Tons/Month)	(Tons/Year)
CO	84	0.80	7.92
NO _x	100	0.95	9.43

These limits are based on the maximum fuel usage and standard AP-42 emission factors. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above limitations were established in Permit 99020046, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.2.7 Testing Requirements

None

7.2.8 Monitoring Requirements

None

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected LPH 1, LPH 2, to LFPH, and OHLD demonstrate compliance with Conditions 5.5.1, 7.2.5 and 7.2.6, pursuant to Section 39.5(7) (b) of the Act:

- a. Records of natural gas usage in scf per month and scf per year for affected LPH 1 and LPH 2 and scf per year for affected LFPH and OHLD.
- b. Records of emissions in tons per month and tons per year for affected LPH 1 and LPH 2 and tons per year for affected LFPH and OHLD.

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected LPH 1, LPH 2, LFPH, or OHLD with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of an affected LPH 1, LPH 2, LFPH, or OHLD in excess of the limits specified in Conditions 7.2.3, 7.2.5 and 7.2.6 within 30 days of such occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

- a. Compliance with Conditions 7.2.3(b) is considered to be assured by the inherent nature of the operations of the affected LPH 1 and LPH 2 as demonstrated by historical operation.
- b. Compliance with Condition 7.2.5 shall be demonstrated by the records required in Condition 7.2.9(a).
- c. Compliance with the emission limits in Conditions 5.5 and 7.2.6 shall be based on the recordkeeping requirements in Condition 7.2.9 and the emission factors and formulas listed below:
 - i. Emission factors for the affected LPH 1, LPH 2, LFPH, and OHLD:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98) and are used to estimate emissions from the affected LPH 1, LPH 2, LFPH, and OHLD.

- ii. Emission formula for the affected LPH 1, LPH 2, LFPH, and OHLD:
$$(\text{Emissions, lb}) = (\text{The Appropriate Emission Factor, lb/mmscf}) \times (\text{Natural Gas Usage, mmscf})$$

7.3 Sequence Caster

7.3.1 Description

Molten steel is processed into billets through a sequence caster. The sequence caster includes two Tundish preheaters (TPH No.1 and No.2) sequence caster (SC) and cutting torches (CT). The caster is in the same building as the arc shop.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
TPH No. 1	Tundish preheater No. 1	None
TPH No. 2	Tundish preheater No. 2	None
SC	Sequence caster	None
CT	Cutting Torches	None

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected caster" for the purpose of these unit-specific conditions, is described in Conditions 7.3.1 and 7.3.2.
- b. The affected caster is subject to the emission limits identified in Condition 5.2.2(b).

7.3.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected caster not being subject to 35 IAC 212.321 or 212.322 since it is subject to 35 IAC 212.450, pursuant to 35 IAC 212.441.

7.3.5 Operational and Production Limits and Work Practices

- a. Particulate matter emissions from liquid steel charging in continuous casting operations shall be controlled by chemical or mechanical shrouds or methods of comparable effectiveness [35 Ill. Adm. Code 212.450].
- b. Natural gas usage for the affected caster shall not exceed 12,269,300 scf per month and 122,865,120 scf per year. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected caster is subject to the following:

- a. Emissions from the affected caster shall not exceed the following limits:

Pollutant	Emission Factor	E M I S S I O N S	
		(Tons/Month)	(Tons/Year)
PM	0.015 lb/ton	0.87	9.00
PM ₁₀	0.008 lb/ton	0.46	4.80
CO	84 lb/mmscf	0.52	5.16
NO _x	100 lb/mmscf	0.62	6.15

These limits are based on the maximum rate, uncontrolled emission factors for PM and PM₁₀ from USEPA document "Iron and Steel Plant Emission Parameters", G. McCutchen, 9/77, and standard AP-42 emission factors. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above limitations contain revisions to previously issued Permit 99020046. This limit is being established in this permit based on the production limits of Permit 97060082 since the source has not fulfilled the requirements outlined in Permit 99020046 which allowed for an increase in steel production pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD) [T1R].

7.3.7 Testing Requirements

None

7.3.8 Monitoring Requirements

None

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected caster to demonstrate compliance with Conditions 5.5.1, 7.3.3(b), 7.3.3(c), 7.3.5 and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of natural gas usage in standard cubic feet per month and standard cubic feet per year.
- b. Records of steel throughput in tons steel cast per month and tons steel cast per year.
- c. Records of emissions in tons per month and tons per year.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected caster with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe

the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of an affected caster in excess of the limits specified in Conditions 7.3.3, 7.3.5 and 7.3.6 within 30 days of such occurrence.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.3.12 Compliance Procedures

- a. Compliance with Conditions 7.3.3(b) and 7.3.3(c) is considered to be assured by the inherent operation of the affected caster when complying with the control requirements of Condition 7.3.5(a).
- b. Compliance with the emission limits in Conditions 5.5 and 7.3.6 shall be based on the recordkeeping requirements in Condition 7.3.9 and the emission factors and formulas listed below:

- i. Emission factors for the affected caster:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/Ton)</u>
PM	0.015
PM ₁₀	0.008

The emission factors for PM and PM₁₀ from USEPA document "Iron and Steel Plant Emission Parameters", G. McCutchen, 9/77.

Emission formula for the affected caster:

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton) x (Steel Throughput, ton)

- ii. Emission factors for the affected caster from the combustion of natural gas:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

Emission formula for the affected boiler when fired by natural gas:

(Emissions, lb) = (The Appropriate Emission
Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

7.4 Steel Works Rod Mill

7.4.1 Description

The Steel Works Rod Mill includes a rod mill reheat furnace (RHF) and rod rolling mill (RRM). Steel billets are reheated and are subsequently processed through a rolling mill to form rod coils.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
RHF	Rod Mill Reheat Furnace	Low NO _x Burners
RRM	Rod Rolling Mill	None

7.4.3 Applicability Provisions and Applicable Regulations

- a. The "affected RHF and affected RRM" for the purpose of these unit-specific conditions, are units described in Conditions 7.4.1 and 7.4.2.
- b. The affected RHF and RRM are subject to the emission limits identified in Condition 5.2.2.
- c. The affected RHF and RRM are subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322, however, a more stringent limit in this section may apply. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.

7.4.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected RHF and RRM not being subject to 35 IAC 216.121, because the affected RHF and RRM are not defined as fuel combustion emission sources pursuant to 35 IAC 211.2470.
- b. This permit is issued based on the affected RHF and RRM not being subject to 35 IAC 217, Subpart B and Subpart C, because the affected RHF and RRM are not defined as fuel combustion emission sources pursuant to 35 IAC 211.2470.
- c. This permit is issued based on the affected RHF and RRM not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected RHF and RRM does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.4.5 Operational and Production Limits and Work Practices

Steel billet throughput for the affected RHF and RRM shall not exceed 86,250 tons per month and 900,000 tons per year. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected RHF and RRM are subject to the following:

Emissions from the affected RHF and RRM shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor</u> (Lb/Ton)	<u>E M I S S I O N S</u>	
		<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
CO	0.038	1.64	17.01
NO _x	0.197	8.50	88.70

These limits are based on the maximum steel billet throughput specified in Condition 7.4.5, and substantiated by a stack test conducted on August 6, 1998. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above limitations were established in Permit 97060082, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.4.7 Testing Requirements

None

7.4.8 Monitoring Requirements

None

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected RHF and RRM to demonstrate compliance with Conditions 5.5.1, 7.4.5 and 7.4.6, pursuant to Section 39.5(7) (b) of the Act:

- a. Records of steel throughput in tons per month and tons per year.
- b. Records of natural gas combusted in standard cubic feet per month and standard cubic feet per year.
- c. Records of NO_x and CO emissions in tons per month and tons per year and all other emissions in tons per year.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected RHF and RRM with the permit requirements as follows, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of an affected RHF and RRM in excess of the limits specified in Conditions 7.4.3, 7.4.5 and 7.4.6 within 30 days of such occurrence.

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.4.12 Compliance Procedures

- a. Compliance with Conditions 7.4.3(b) and 7.4.3(c) are considered to be assured by the inherent nature of the operations of the affected RHF and RRM, as demonstrated by historical operation.
- b. Compliance with Condition 7.4.5 shall be demonstrated by the records required in Condition 7.4.9(a).
- c. Compliance with the emission limits in Conditions 5.5 and 7.4.6 shall be based on the recordkeeping requirements in Condition 7.4.9 and the emission factors and formulas listed below:
 - i. Emission factors for the affected RHF and RRM:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/Ton)</u>
CO	0.038
NO _x	0.197

These emission factors were established and substantiated by a stack test conducted on August 6, 1998.

Emission formula for the affected RHF and RRM:

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton) x (Steel Billet Throughput, tons)

ii. Emission factors for the affected RHF and RRM:

<u>Pollutant</u>	<u>Emission Factors (lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6

The emission factors (lb/mmscf) are for Natural Gas Combustion from AP-42 Section 1.4, Table 1.4-2 (dated 7/98).

Emission formula for the affected RHF and RRM:

(Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

7.5 Unit: Steam Plant

7.5.1 Description

The Steam Plant includes Boiler No. 1 (B1) and Boiler No. 3 (B3). B1 is a 143 mmBtu/hr boiler fired with distillate fuel oil and B3 is a 138 mmBtu/hr boiler fired with natural gas. B1 is used as a back-up when B3 is down for maintenance or during periods of natural gas curtailment.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
B1	143 mmBtu/Hr, Distillate Fuel Oil Fired Boiler	None
B3	138 mmBtu/Hr, Natural Gas Fired Boiler	None

7.5.3 Applicability Provisions and Applicable Regulations

- a. The "affected B1 and affected B3" for the purpose of these unit-specific conditions, are units described in Conditions 7.5.1 and 7.5.2.
- b. The affected B1 and B3 are subject to the emission limits identified in Condition 5.2.2(b).
- c. The affected B1 is subject to 35 IAC 212.206 which states:

No person shall cause or allow the emissions of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu) [35 IAC 212.206].

- d. The affected B1 is subject to 35 IAC 214.122(b) (2) which states:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hr), burning liquid fuel exclusively to exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lb/mmBtu) [214.122(b) (2)].

- e. The affected B1 and B3 are subject to 35 IAC 216.121 which states:

No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission unit with actual heat input greater than 2.9 MW (10 mmBtu/hr)

to exceed 200 parts per million, corrected to 50 percent excess air [35 IAC 216.121].

7.5.4 Non-Applicability of Regulations of Concern

- a. The affected B1 and B 3 are not subject to 35 IAC 217.121, Emissions of Nitrogen Oxides from New Fuel Combustion Emission Sources, because the actual heat input of affected B1 and B3 are less than 73.2 MW (250 mmBtu/hr).
- b. The affected B1 and B 3 are not subject to the continuous monitoring requirements of 35 IAC 201, Subpart L, because affected B1 and B3 have a firing rate less than 250 mmBtu/hr and combust only gas or oil.
- c. Pursuant to 35 IAC 215.303, fuel combustion emission units are not subject to 35 IAC 215.301, Use Of Organic Material.
- d. The affected B1 and B3 are not subject to requirements of 35 IAC Part, 217, Subpart U "NO_x, Control and Trading Program For Specified NO_x Generating Units" because a maximum design heat input for affected B1 or B3 is less than 250 mmBtu/hr.
- e. This permit is issued based on the affected B1 and B3 not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected B1 and B3 does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.5.5 Operational and Production Limits and Work Practices

- a. Affected B3 shall only be fired with natural gas and affected B1 shall only be fired with distillate fuel oil or natural gas.
- b. The Permittee shall not utilize distillate fuel oil (Grades No. 1 and 2) in affected B1 with a sulfur content greater than the larger of the following two values:
 - i. 0.28 weight percent; or
 - ii. The weight percent given by the formula:
maximum weight percent sulfur = $(0.000015) \times$
(Gross heating value of oil, Btu/lb).

7.5.6 Emission Limitations

There are no specific emission limitations for these units; however, there are source wide emission limitations in Condition 5.5 that include these units.

7.5.7 Testing Requirements

None

7.5.8 Monitoring Requirements

None

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected B1 and B3 to demonstrate compliance with Conditions 5.5.1 and 7.5.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Records of maximum sulfur content, in weight percent, of distillate fuel oil used in affected B1. This record shall be updated anytime a different grade of distillate fuel oil or vendor is used.
- b. Records of natural gas consumption in standard cubic feet per year.
- c. Records of distillate fuel oil consumption in gallons per year.
- d. Records of emissions in tons per year.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of affected B1 and B3 with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of affected B1 and B3 in excess of the limits specified in Conditions 7.5.3 and 7.5.5 within 30 days of such occurrence.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.5.12 Compliance Procedures

- a. Compliance with Conditions 7.5.3(b), 7.5.3(c) and 7.5.3(e) is considered to be assured by the inherent nature of the operations of the affected B1 and B3, as demonstrated by historical operation.
- b. Compliance with Condition 7.5.3(d) is considered to be assured by the normal work practices and maintenance activities required in Condition 7.5.5(b) and the records required in Condition 7.5.9(a).

- c. Compliance with Conditions 7.5.5(a) and 7.5.5(b) shall be demonstrated by the records required in Conditions 7.5.9(a), 7.5.9(b) and 7.5.9(c).
- d. Compliance with the emission limits in Conditions 5.5 and 7.5.6 shall be based on the recordkeeping requirements in Condition 7.5.9 and the emission factors and formulas listed below:
 - i. Emission factors for the affected B1:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/1,000 gallons)</u>
VOM	0.2
PM	3.3
SO ₂	142(S)
NO _x	24
CO	5

These are the emission factors for distillate fuel oil combustion in large (> 100 mmBtu/hr) boilers from Tables 1.3-1, 1.3-2, and 1.3-3 of the USEPA Manual AP-42, Volume I, Fifth Edition, Supplement E, September 1998. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

Emission formula for the affected B1:

$$(\text{Emissions, lb}) = (\text{The Appropriate Emission Factor, lb/1000 gallons}) \times (\text{Distillate Fuel Oil Combusted, 1000 gallons})$$

- ii. Emission factors for the affected B3:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	280
CO	84

These are the emission factors for natural gas combustion in large (> 100 mmBtu/hr), uncontrolled boilers from Tables 1.4-1 and 1.4-2 of the USEPA Manual AP-42, Volume I, Fifth Edition, Supplement D, March 1998.

$$(\text{Emissions, lb}) = (\text{The Appropriate Emission Factor, lb/mmscf}) \times (\text{Natural Gas Combusted, mmscf})$$

7.6 Gasoline Storage

7.6.1 Description

Gasoline Storage includes a 10,000 gallon underground storage tank (UST), a 2,500 gallon UST and a 1500 gallon aboveground storage tank (AST). Both tanks are equipped with submerge fill and a vapor balance system.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
UST No. 27	10,000 Gallon Underground Storage Tank (Wire Mill)	Submerge fill and vapor balance system
UST No. 14	2,500 Gallon Underground Storage Tank (Mid Mill)	Submerge fill and vapor balance system
AST	1,500 Gallon Aboveground Storage Tank (Steel Works)	Submerge Fill and Vapor Balance System

7.6.3 Applicability Provisions and Applicable Regulations

- a. The "affected tank" for the purpose of these unit-specific conditions, are units described in Conditions 7.6.1 and 7.6.2.
- b. An affected tank is subject to the following limits:
 - i. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, or unless such tank is a pressure tank as described in 35 IAC 215.121(a) or is fitted with a recovery system as described in 35 IAC 215.121(b) (2) [35 IAC 215.122(b)].
 - ii. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302, 215.303, or 215.304 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material [35 IAC 215.301].
 - iii. Pursuant to 35 IAC 215.583(a), no person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing operation unless:
 - A. The tank is equipped with a submerged loading pipe [35 IAC 215.583(a) (1)]; and

- B. Pursuant to 35 IAC 215.583(a)(2), the vapors displaced from the storage tank during filling are processed by a vapor control system that includes one or more of the following:
 - 1. A vapor collection system that meets the requirements of Condition 7.6.5(b) (see also 35 IAC 215.583(d)(4)) [35 IAC 215.583(a)(2)(A)]; or
 - 2. A refrigeration-condensation system or any other system approved by the Illinois EPA that recovers at least 90 percent by weight of all vaporized organic material from the equipment being controlled [35 IAC 215.583(a)(2)(B)]; and
 - 3. The delivery vessel displays the appropriate sticker pursuant to the requirements of 35 IAC 215.584(b) or (d) [35 IAC 215.583(a)(2)(C)].

7.6.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on an affected tank not being subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), 40 CFR Part 60, Subpart Kb, because the affected UST and AST are less than 40 cubic meters (10,566 gallons).
- b. This permit is issued based on an affected tank not being subject to 35 IAC 215.121, because the affected UST and AST are less than 40,000 gallons.
- c. This permit is issued based on an affected tank not being subject to 35 IAC 215.122(a), because the affected UST and AST are less than 40,000 gallons.
- d. This permit is issued based on an affected tank not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected UST and AST do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.6.5 Control Requirements and Work Practices

An affected tank is subject to the following control requirements and work practices:

- a. Pursuant to 35 IAC 215.583(c), each owner of a gasoline dispensing operation shall:

- i. Install all control systems and make all process modifications required by Condition 7.6.3(b)(iii) (see also 35 IAC 215.583(a)) [35 IAC 215.583(c)(1)];
 - ii. Provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system [35 IAC 215.583(c)(2)]; and
 - iii. Repair, replace or modify any worn out or malfunctioning component or element of design [35 IAC 215.583(c)(3)].
- b. Pursuant to 35 IAC 215.583(d), each operator of a gasoline dispensing operation shall:
- i. Maintain and operate each vapor control system in accordance with the owner's instructions [35 IAC 215.583(d)(1)];
 - ii. Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system [35 IAC 215.583(d)(2)];
 - iii. Maintain gauges, meters or other specified testing devices in proper working order [35 IAC 215.583(d)(3)]; and
 - iv. Pursuant to 35 IAC 215.583(d)(4), operate the vapor collection system and delivery vessel unloading points in a manner that prevents:
 - A. A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B [35 IAC 215.583(d)(4)(A)]; and
 - B. Avoidable leaks of liquid during the filling of storage tanks [35 IAC 215.583(d)(4)(B)].

7.6.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.6.7 Testing Requirements

Within 15 business days after discovery of the leak by the owner, operator, or the Illinois EPA, repair and retest a vapor collection system which exceeds the limits of

Condition 7.6.5(b)(iv)(A) (see also 35 IAC 215.583(d)(4)(A)) [35 IAC 215.583(d)(5)].

7.6.8 Monitoring Requirements

None

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for an affected tank to demonstrate compliance with Conditions 5.5.1, 7.6.3 and 7.6.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing and repair of the vapor collection system pursuant to Condition 7.6.7 [Section 39.5(7)(e) of the Act].
- b. Records of gasoline throughput in gallons per year.
- c. Records of emissions in tons per year.

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of an affected tank in excess of the limits specified in Conditions 7.6.3 and 7.6.5 within 30 days of such occurrence.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected tank without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

- a. Changes to components related to either the submerged loading pipe or submerged fill, including addition of new components and repair and replacement of components.
- b. Changes in the material stored, e.g., fuel oil, in an affected tank, provided an affected tank continues to comply with the Conditions of Section 7.6 of this permit.

7.6.12 Compliance Procedures

- a. Compliance with Conditions 7.6.3(b) is considered to be assured by the use of submerged loading pipe and vapor balance system as required in Condition 7.6.5 and by the recordkeeping requirement of Condition 7.6.9.
- b. For the purpose of estimating VOM emissions from an affected tank, the TANKS program is acceptable.

7.7 Rod Coil Cleaning

7.7.1 Description

Rod Coil Cleaning includes a circular cleaning process (RC1) and an in-line cleaning process (RC3) Each process uses a series of sulfuric acid baths, rinse tanks, coating tanks that contain either lime or borax and flash bakers for drying. RC3 also has a zinc phosphate coating tank and a potassium permanganate coating tank. Emissions are mostly from natural gas combustion of the flash bakers.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
RC1	Circular Cleaning Process	None
RC3	In-Line Cleaning Process	None

7.7.3 Applicability Provisions and Applicable Regulations

- a. The "affected RC1 and affected RC3" for the purpose of these unit-specific conditions, are units described in Conditions 7.7.1 and 7.7.2.
- b. The affected RC1 and RC3 are subject to the emission limits identified in Condition 5.2.2.
- c. The affected RC1 and RC3 are subject to 35 IAC 214.303 which states:

With the exception of fuel combustion emission sources and acid manufacturing, no person using sulfuric acid shall cause or allow the emission of sulfuric acid and/or sulfur trioxide from all other similar emission sources at a plant or premises to exceed [35 IAC 214.303]:

- i. 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/yr (100 percent acid basis) (0.10 lbs/hr up to 1300 T/yr);
- ii. 250 grams per metric ton of acid used for sulfuric acid usage greater than or equal to 1180 Mg/yr (100 percent acid basis) (0.50 lbs/T over 1300 T/yr).

7.7.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected RC1 and RC3 not being subject to 35 IAC 212.321 or 212.322, because the process rate rule does not apply to pickling operations [35 IAC 266.190(a)].
- b. This permit is issued based on the affected RC1 and RC3 not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected RC1 and RC3 uses a passive control measure, such as a seal, lid, or roof,

that is not considered a control device because it acts to prevent the release of pollutants.

7.7.5 Operational and Production Limits and Work Practices

None

7.7.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.7.7 Testing Requirements

None

7.7.8 Monitoring Requirements

None

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected RC1 and RC3 to demonstrate compliance with Conditions 5.5.1 and 7.7.3, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of natural gas usage in standard cubic feet per year.
- c. Records of emissions in tons per year.

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected RC1 and RC3 with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Emissions from or operation of an affected RC1 and RC3 in excess of the limits specified in Condition 7.7.3 within 30 days of such occurrence.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.7.12 Compliance Procedures

- a. Compliance with Condition 7.7.3(b) is considered to be assured by the inherent nature of the operations at this source, as demonstrated by historical operation.

- b. Compliance with Condition 7.7.3(c) is considered to be assured by the records required in Condition 7.7.9(a) and the emissions calculation procedure in Condition 7.7.12(c) (i).
- c. Compliance with the emission limits in Conditions 5.5 and 7.7.3(c) shall be based on the recordkeeping requirements in Condition 7.7.9(b) and the emission factors and formulas listed below:
 - i. Emission factors for the affected RC1 and RC3:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

Emission formula for the affected boiler when fired by natural gas:

(Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

- ii. Emissions from the affected RC1 and RC3 for sulfuric acid shall be calculated using the following formula:

$$E_{H_2SO_4} = 0.00015 \text{ lb/hr} \cdot \text{ft}^2 \times A$$

Where:

$E_{H_2SO_4}$ = Sulfuric acid emission rate in lb/hr

A = Surface area of tanks in ft²

The emission factor (lb/hr·ft²) is from the document "Technical Guidance Package - Hot Dip Galvanizing, Metal Spraying, Chromium Plating and Anodizing", Texas Natural Resource Conservation Commission, Air Permits Division.

7.8 Wire Galvanizing

7.8.1 Description

Wire Galvanizing includes wire galvanizing frame 5 (WGF5), wire galvanizing frame 7 (WGF7), wire galvanizing frame 8 (WGF8), wire galvanizing frame 9 (WGF9), wire galvanizing frame 11 (WGF11), wire galvanizing frame 14 (WGF14) and wire galvanizing frame 15 (WGF15). The wire galvanizing process have an annealing stage, a quench bath, a hydrochloric acid pickling shed, flux tank, a preheater and a zinc pan. WGF 7's hydrochloric acid pickling shed and WGF15's flux tank are vented to a scrubber. WGF5, WGF8, WGF9, WGF14 and WGF15's hydrochloric acid pickling sheds are enclosed with a water curtain.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
WGF5	Wire Galvanizing Frame 5	Water Curtain
WGF7	Wire Galvanizing Frame 7	Scrubber
WGF8	Wire Galvanizing Frame 8	Water Curtain
WGF9	Wire Galvanizing Frame 9	Water Curtain
WGF11	Wire Galvanizing Frame 11	None
WGF14	Wire Galvanizing Frame 14	Water Curtain
WGF15	Wire Galvanizing Frame 15	Water curtain

7.8.3 Applicability Provisions and Applicable Regulations

- a. The "affected WGF5, affected WGF7, affected WGF8, affected WGF9, affected WGF11, affected WGF14 and affected WGF15" for the purpose of these unit-specific conditions, are units described in Conditions 7.8.1 and 7.8.2.
- b. The affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 are subject to the emission limits identified in Condition 5.2.2.
- c. The affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 are subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.

7.8.4 Non-Applicability of Regulations of Concern

- a. (See Condition 5.3.1)
- b. This permit is issued based on the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 uses a passive control measure, such as a seal,

lid, or roof, that is not considered a control device because it acts to prevent the release of pollutants.

7.8.5 Operational and Production Limits and Work Practices

None

7.8.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.8.7 Testing Requirements

None

7.8.8 Monitoring Requirements

The Permittee shall monitor the pH of the scrubber that controls the affected WGF7 and WGF15 in accordance with the manufacturers specifications to ensure good air pollution control during periods when the scrubber is in operation.

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 to demonstrate compliance with Conditions 5.5.1, 7.8.3(b) and 7.8.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Records of natural gas combustion in standard cubic feet per year.
- b. Records of operating hours in hours per year.
- c. Records of zinc usage in tons per year.
- d. Records of emissions in tons per year.

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 in excess of the limits specified in Conditions 7.8.3(b) and 7.8.3(c) within 30 days of such occurrence.

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.8.12 Compliance Procedures

- a. Compliance with Conditions 7.8.3(b) and 7.8.3(c) are considered to be assured by the normal work practices and maintenance activities inherent in operation of the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15.
- b. Compliance with the emission limits in Conditions 5.5 and 7.8.6 shall be based on the recordkeeping requirements in Condition 7.8.9 and the emission factors and formulas listed below:
 - i. Emission factors for the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 from combustion of natural gas:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

(Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

- ii. Emissions from the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 for hydrochloric acid shall be calculated using the following formula:

$$E_{HCL} = 25 \times (0.46 + 0.117V) \times \log[760/(760 - P)] \times A \times (1 - \text{Eff})$$

Where:

E_{HCL} = HCL emission rate in lb/hr

V = Air Velocity across surface in ft/sec

A = Area of tank in ft²

P = Partial pressure of HCL for 25% solution at 120 degrees F (13.2 mmHg)

Eff = Efficiency of the control equipment

The emission factor (lb/hr*ft²) is from the document "Technical Guidance Package - Hot Dip Galvanizing, Metal Spraying, Chromium Plating and Anodizing", Texas Natural Resource Conservation Commission, Air Permits Division.

- iii. Emission factors for the affected WGF5, WGF7, WGF8, WGF9, WGF11, WGF14 and WGF15 from galvanizing:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/Ton Zinc)</u>
PM	5
PM ₁₀	5

The emission factors (lb/ton zinc used) are for uncontrolled galvanizing from AP-42 Section 12.14 (dated 1/95).

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton zinc used) x (Zinc Used, tons)

7.9 Nail Galvanizing

7.9.1 Description

Nail Galvanizing includes hot nail galvanizing unit 3 (HNG3), hot nail galvanizing unit 4 (HNG4), hot nail galvanizing unit 5 (HNG5) and hot nail galvanizing unit 7 (HNG7). At HNG3, HNG4, HNG5 and HNG7, nails and pellets of zinc, tin and flux are loaded into a heated drum. The drum is rotated and placed in a furnace. After the cycle is complete, the nails are quenched and dried in a rotating drum dryer.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
HNG3	Hot Nail Galvanizing Unit 3	None
HNG4	Hot Nail Galvanizing Unit 4	None
HNG5	Hot Nail Galvanizing Unit 5	None
HNG7	Hot Nail Galvanizing Unit 7	None

7.9.3 Applicability Provisions and Applicable Regulations

- a. The "affected HNG3, affected HNG4, affected HNG5 and affected HNG7" for the purpose of these unit-specific conditions, are units described in Conditions 7.9.1 and 7.9.2.
- b. The affected HNG3, HNG4, HNG5 and HNG7 are subject to the emission limits identified in Condition 5.2.2.
- c. The affected HNG3, HNG4, HNG5 and HNG7 are subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.

7.9.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected HNG3, HNG4, HNG5 and HNG7 not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected HNG3, HNG4, HNG5 and HNG7 do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.9.5 Operational and Production Limits and Work Practices

- a. Galvanizing of nails in each of affected HNG3 and HNG4 shall not exceed 630 tons per month and 6,300 tons per year.
- b. Galvanizing of nails in each of affected HNG5 and HNG7 shall not exceed 916 tons per month and 9,156 tons per year.

7.9.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected HNG3, HNG4, HNG5 and HNG7 are subject to the following:

- a. Emissions from each of the affected HNG3 and HNG4 shall not exceed the following limits:

<u>Pollutant</u>	<u>(Ton/Month)</u>	<u>(Ton/Year)</u>
PM	0.88	8.77

These limits are based on the allowable emission rate pursuant to 35 IAC 212.321, an average process weight rate of 1500 pounds per hour and 8,400 hours per year operation. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above annual limitations were established in Permit 83100059, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

- b. Emissions from each of the affected HNG5 and HNG7 shall not exceed the following limits:

<u>Pollutant</u>	<u>(Ton/Month)</u>	<u>(Ton/Year)</u>
PM	1.12	11.20

These limits are based on the allowable emission rate pursuant to 35 IAC 212.321, an average process weight rate of 2180 pounds per hour and 8,400 hours per year operation. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above annual limitations were established in Permit 83100059, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.9.7 Testing Requirements

None

7.9.8 Monitoring Requirements

None

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected HNG3, HNG4, HNG5 and HNG7 to demonstrate compliance with Conditions 5.5.1, 7.9.3(b), 7.9.3(c), 7.9.6(a) and 7.9.6(b), pursuant to Section 39.5(7) (b) of the Act:

- a. Records of natural gas combustion in standard cubic feet per year.
- b. Records of zinc usage in tons per month and tons per year.
- c. Records of PM emissions in tons per month and tons per year and all other emissions in tons per year.

7.9.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected HNG3, HNG4, HNG5 and HNG7 with the permit requirements as follows, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of the affected HNG3, HNG4, HNG5 and HNG7 in excess of the limits specified in Conditions 7.9.3(b), 7.9.3(c), 7.9.6(a) and 7.9.6(b) within 30 days of such occurrence.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.9.12 Compliance Procedures

- a. Compliance with Conditions 7.9.3(b) and 7.9.3(c) are considered to be assured by the normal work practices and maintenance activities inherent in operation of the affected HNG3, HNG4, HNG5 and HNG7.
- b. Compliance with the emission limits in Conditions 5.5 and 7.9.6 shall be based on the recordkeeping requirements in Condition 7.9.9 and the emission factors and formulas listed below:

- i. Emission factors for the affected HNG3, HNG4, HNG5 and HNG7 from combustion of natural gas:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

(Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

- ii. Emissions from the affected HNG3, HNG4, HNG5 and HNG7 from galvanizing:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/Ton Zinc)</u>
PM	5
PM ₁₀	5

The emission factors (lb/ton zinc used) are for uncontrolled galvanizing from AP-42 Section 12.14 (dated 1/95).

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton zinc used) x (Zinc Used, tons)

7.10 Galvanizing Afterweave

7.10.1 Description

The Galvanizing Afterweave (GAW) begins with wire netting that is dipped into a hydrochloric acid tank and flux tank to prepare it for a zinc coating. The wire netting is dipped in a zinc bath and quenched. The hydrochloric acid tank and zinc bath are controlled by a demister

7.10.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
GAW	Galvanizing Afterweave	Demister

7.10.3 Applicability Provisions and Applicable Regulations

- a. The "affected GAW" for the purpose of these unit-specific conditions, is unit described in Conditions 7.10.1 and 7.10.2.
- b. The affected GAW is subject to the emission limits identified in Condition 5.2.2(b).
- c. The affected GAW is subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.

7.10.4 Non-Applicability of Regulations of Concern

- a. (See Condition 5.3.1)
- b. This permit is issued based on the affected GAW not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected GAW uses a passive control measure, such as a seal, lid, or roof, that is not considered a control device because it acts to prevent the release of pollutants.

7.10.5 Operational and Production Limits and Work Practices

None

7.10.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.10.7 Testing Requirements

None

7.10.8 Monitoring Requirements

None

7.10.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected GAW to demonstrate compliance with Conditions 5.5.1, 7.10.3(b) and 7.10.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Records of natural gas combustion in standard cubic feet per year.
- b. Records of operating hours in hours per year.
- c. Records of zinc usage in tons per year.
- d. Records of emissions in tons per year.

7.10.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected GAW with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of the affected GAW in excess of the limits specified in Conditions 7.10.3 within 30 days of such occurrence.

7.10.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.10.12 Compliance Procedures

- a. Compliance with Conditions 7.10.3(b) and 7.10.3(c) are considered to be assured by the normal work practices and maintenance activities inherent in operation of the affected GAW.
- b. Compliance with the emission limits in Condition 5.5 shall be based on the recordkeeping requirements in Condition 7.10.9 and the emission factors and formulas listed below:
 - i. Emission factors for the affected GAW from combustion of natural gas:

Emission Factors	
<u>Pollutant</u>	<u>(lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

(Emissions, lb) = (The Appropriate Emission Factor, lb/mmscf) x (Natural Gas Usage, mmscf)

- ii. Emissions from the affected GAW for hydrochloric acid shall be calculated by the following manner:

$$E_{HCL} = 25 \times (0.46 + 0.117V) \times \log[760/(760-P)] \times A \times (1-Eff)$$

Where:

E_{HCL} = HCL emission rate in lb/hr

V = Air velocity across surface in ft/sec

A = Area of tank (ft²)

P = Partial pressure of HCL for 25% solution at 120 degrees F (13.2 mmHg)

Eff = Control efficiency

The emission factor (lb/hr*ft²) is from the document "Technical Guidance Package - Hot Dip Galvanizing, Metal Spraying, Chromium Plating and Anodizing", Texas Natural Resource Conservation Commission, Air Permits Division.

- iii. Emission factors for the affected GAW from galvanizing:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/Ton Zinc)</u>
PM	5
PM ₁₀	5

The emission factors (lb/ton zinc used) are for uncontrolled galvanizing from AP-42 Section 12.14 (dated 1/95).

(Emissions, lb) = (The Appropriate Emission Factor, lb/ton zinc used) x (Zinc Used, tons)

7.11 Coating Operations

7.11.1 Description

Coating Operations include green nail coating (GNC), stockade panel coating (SPC), wire paint wipe frame 5 (WPW5), wire paint wipe frame 11 (WPW11), wire paint wipe frame 15 (WPW15) and self-furring keymesh painting (SFKP). The GNC process has rinsed nails dried in a preheater before coated in a spiral flow coater with vinyl coating. The nails are then dried in a rotary tumbler. SPC takes place in a spray booth with a filter where paint is manually applied with a spray gun. WPW5, WPW11, WPW15 and SFKP coat wire and wire mesh using a system of roll coaters.

7.11.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
GNC	Green Nail Coating	None
SPC	Stockade Panel Coating	None
WPW5	Wire Paint Wipe Frame 5	None
WPW11	Wire Paint Wipe Frame 11	None
WPW15	Wire Paint Wipe Frame 15	None
SFKP	Self-Furring Keymesh Painting	None

7.11.3 Applicability Provisions and Applicable Regulations

- a. The "affected GNC, affected SPC, affected WPW5, affected WPW11, affected WPW15 and affected SFKP" for the purpose of these unit-specific conditions, are units described in Conditions 7.11.1 and 7.11.2.
- b. The affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP are subject to the emission limits identified in Condition 5.2.2.
- c. The affected SPC is subject to the PM limits of 35 IAC 212.321 or 35 IAC 212.322. 35 IAC 212.321 and 35 IAC 212.322 are referenced in Attachment 10.1 and Attachment 10.2, respectively.
- d. The affected SPC, WPW5, WPW11, WPW15 and SFKP are subject to 35 IAC 215.204(j) (2) for air-dried miscellaneous metal parts coating which provides:
 - i. No owner or operator of a coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations for the coating as applied to Miscellaneous Metal Parts and Products. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as

applied at each coating applicator [35 IAC 215.204(j)(2)]:

$\frac{\text{kg/liter}}{0.42}$	$\frac{\text{lb/gallon}}{3.5}$
--------------------------------	--------------------------------

- ii. Compounds which are specifically exempted from the definition of VOM, should be treated as water for the purpose of calculating the "less water" part of the coating composites.
- e. The affected GNC is subject to 35 IAC 215.204(f) for vinyl coating which provides:
 - i. No owner or operator of a coating line shall apply at any time any coating in which the VOM content exceeds the following emission limitations. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator [35 IAC 215.204(f)]:

$\frac{\text{kg/liter}}{0.45}$	$\frac{\text{lb/gallon}}{3.8}$
--------------------------------	--------------------------------

- ii. Compounds which are specifically exempted from the definition of VOM, should be treated as water for the purpose of calculating the "less water" part of the coating composites.

7.11.4 Non-Applicability of Regulations of Concern

- a. The affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP are not subject to 35 IAC 215.301, Use of Organic Material, pursuant to 35 IAC 215.209, Exemption From General Rule on Use of Organic Material which excludes affected coating lines from this requirement.
- b. This permit is issued based on the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP does not use an add-on control device to achieve compliance with an emission limitation or standard.

7.11.5 Operational and Production Limits and Work Practices

None

7.11.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.11.7 Testing Requirements

Testing for VOM content of coatings and other materials shall be performed as follows [35 IAC 215.105(a), 215.211(a), and Section 39.5(7)(b) of the Act]

Upon reasonable request by the Illinois EPA, the VOM content of specific coatings and cleaning solvents used on the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 215.105(a), 215.208 and 215.211(a).

- a. The VOM content of representative coatings "as applied" on the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 215.105(a);
- b. This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation for such testing to the Permittee and the Permittee's records pursuant to Condition 7.11.9(b) directly reflect the application of such material and separately account for any additions of solvent [35 IAC 215.105(a), 215.208, and 215.211(a)].

7.11.8 Inspection Requirements

None

7.11.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP to demonstrate compliance with Conditions 5.5.1, 7.11.3, pursuant to Section 39.5(7)(b) of the Act:

- a.
 - i. The name and identification number of each coating as applied on the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP;
 - ii. The usage of each coating, in units of gallons/month.
 - iii. The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each month on the affected coating line.
- b. Records of the testing of VOM and HAP content (in wt. %) of each coating and cleaning solvent as tested pursuant to the conditions of this section, which include the following [Section 39.5(7)(e) of the Act]:

- i. Identification of material tested,
 - ii. Results of analysis;
 - iii. Documentation of analysis methodology; and
 - iv. Person performing analysis.
- c. Records of emissions in tons per year.

7.11.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP in excess of the limits specified in Conditions 7.11.3 within 30 days of such occurrence.

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Usage of coatings, thinners, or cleaning solvents at this source with various VOM contents provided that the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP comply with the conditions of this permit.

7.11.12 Compliance Procedures

- a. Compliance with Conditions 7.11.3(b) and 7.11.3(c) is considered to be assured by the inherent nature of the operations at this source, as demonstrated by historical operation.
- b. Compliance of each coating with the VOM emission limitations in Condition 7.11.3(d) and 7.11.3(e) shall be based on the recordkeeping requirements in Condition 7.11.9 and by the use of either testing as required in Condition 7.11.7 or by use of the formulae listed below:

$$\text{VOM Coating Content} = V \times D / [1 - W \times D],$$

Where:

V = Percent VOM in the coating (%)

D = Overall coating density (lb/gal)

$$W = 3 (w_i / d_i),$$

Where

w_i = Percent exempt compound i in the coating,

d_i = Overall density of exempt compound i, in lb/gal

- c. Compliance with the emission limits in Condition 5.5 shall be based on the recordkeeping requirements in Condition 7.11.9 and the emission factors and formulas listed below:
- i. Emission factors for the affected GNC when fired by natural gas:

Emission Factors	
<u>Pollutant</u>	<u>(Lb/mmscf)</u>
VOM	5.5
PM	7.6
SO ₂	0.6
NO _x	100
CO	84

The emission factors (lb/mmscf) are for Natural Gas-Fired Small Boilers (<100 mmBtu/hr Heat Input) from AP-42 Section 1.4 (dated 7/98).

Emission formula for the affected GNC when fired by natural gas:

$$(\text{Emissions, lb}) = (\text{The Appropriate Emission Factor, lb/mmscf}) \times (\text{Natural Gas Usage, mmscf})$$

- ii. Emissions VOM from the affected GNC, SPC, WPW5, WPW11, WPW15 and SFKP are calculated as follows:

$$(\text{Emissions, lb}) = (\text{VOM Content, lbs/gallon}) \times (\text{Coating Usage, gallons})$$

7.12 Air Stripper

7.12.1 Description

Air Stripper (AS) is part of a groundwater remediation system that removes VOM and HAP emissions form groundwater and emits it to the air.

7.12.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
AS	Air Stripper	None

7.12.3 Applicability Provisions and Applicable Regulations

The "affected AS" for the purpose of these unit-specific conditions, is unit described in Conditions 7.12.1 and 7.12.2.

7.12.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the source not being subject to 35 IAC 215.141 because the affected AS is not an effluent water separator.
- b. This permit is issued based on the source not being subject to 35 IAC 215.301 because operation of the affected AS does not constitute the use of organic material.

7.12.5 Operational and Production Limits and Work Practices

The pumping rate of groundwater through affected AS shall not exceed 800 gallons per minute.

7.12.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected AS is subject to the following:

- a. Emissions from the affected AS shall not exceed the following limits:

<u>Pollutant</u>	<u>(LB/Hour)</u>	<u>(Ton/Year)</u>
VOM and VOM HAPs	1.41	6.14
Non-VOM HAPs	0.56	2.46

These limits are based on the maximum flow rate, highest concentration of VOM and HAPs in groundwater and 8760 hours per year operation. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

The above limitations were established in Permit 92110086, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.12.7 Testing Requirements

None

7.12.8 Monitoring Requirements

None

7.12.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected AS to demonstrate compliance with Conditions 5.5.1, 7.12.5 and 7.12.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of groundwater throughput in gallons per month and gallons per year. May assume maximum design throughput.
- b. All sample analysis performed on the groundwater
- c. Emissions of VOM and HAPs in pounds per month and tons per year

7.12.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected AS with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of an affected AS in excess of the limits specified in Conditions 7.12.5 and 7.12.6 within 30 days of such occurrence.

7.12.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.12.12 Compliance Procedures

- a. Compliance with Conditions 7.12.6 is considered to be assured if the Permittee meets the requirements of

Condition 7.12.5 and the records required in Condition 7.1.9.

- b. Compliance with the emission limits in Conditions 5.5 and 7.12.6 shall be based on the recordkeeping requirements in Condition 7.12.9 and the emission factors and formulas listed below:

(Emissions, lb) = (Measured concentration of VOM and HAPs, lb/gallon) x (Groundwater Flow Rate, gallons/month).

7.13 Fugitive Emissions

7.13.1 Description

Vehicle traffic, wind erosion and slag processing generate fugitive emissions of particulate matter. These points of fugitive emissions include slag crushing operation (SC), storage piles (SP), unpaved roadways (UR), paved roadways (PR) and parking lots (PL).

7.13.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
SP	Storage Piles	None
UR	Unpaved Roadways	Surfactant spray
PR	Paved Roadways	Street sweeper
PL	Parking Lots	Street sweeper

7.13.3 Applicability Provisions and Applicable Regulations

a. The "affected SP, affected UR, affected PR and affected PL" for the purpose of these unit-specific conditions, are units described in Conditions 7.13.1 and 7.13.2.

b. The affected SP, UR, PR and PL are subject to 35 IAC 212.301 which states:

No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source [35 IAC 212.301].

35 IAC 212.301 shall not apply and spraying pursuant to 35 IAC 212.304 through 212.310 and 212.312 shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements [35 IAC 212.314].

c. The affected SP is subject to 35 IAC 212.316(d) which states:

No person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent, to be

measured four ft from the pile surface [35 IAC 212.316(d)].

- d. The affected UR, PR and PL are subject to 35 IAC 212.316(c) which states:

No person shall cause or allow fugitive particulate matter emissions from any roadway or parking area to exceed an opacity of 10 percent, except that the opacity shall not exceed 5 percent at quarries with a capacity to produce more than 1 million T/yr of aggregate [35 IAC 212.316(c)].

7.13.4 Non-Applicability of Regulations of Concern

35 IAC 212.321 and 212.322 shall not apply to emission units, such as stock piles of particulate matter, to which, because of disperse nature of such emission units, such rules can not reasonably be applied [35 IAC 212.323].

7.13.5 Operational and Production Limits and Work Practices Control requirements

- a. The affected SP are subject to 35 IAC 212.304 which states:

- i. All storage piles of materials with uncontrolled emissions of fugitive particulate matter in excess of 45.4 Mg per year (50 T/yr) which are located within a source whose potential particulate emissions from all emission units exceed 90.8 Mg/yr (100 T/yr) shall be protected by a cover or sprayed with a surfactant solution or water on a regular basis, as needed, or treated by an equivalent method, in accordance with the operating program required by Sections 212.309, 212.310 and 212.312 of this Subpart [35 IAC 212.304(a)].

- ii. Subsection (a) of this Section shall not apply to a specific storage pile if the owner or operator of that pile proves to the Agency that fugitive particulate emissions from that pile do not cross the property line either by direct wind action or re-entrainment [35 IAC 212.304(b)].

- b. The affected UR, PR and PL are subject to 35 IAC 212.306 which states:

All normal traffic pattern access areas surrounding storage piles specified in Section 212.304 of 35 IAC Subpart K and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing

property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 212.309, 212.310 and 212.312 of 35 IAC Subpart K [35 IAC 212.306].

7.13.6 Emission Limitations

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.13.7 Operating Requirements

The affected SP, UR, PR and PL are subject to 35 IAC 212.309, 212.310 and 212.312 which states:

- a. i. The emission units described in Sections 212.304 through 212.308 and Sections 212.316 of 35 IAC Subpart K shall be operated under the provisions of an operating program, consistent with the requirements set forth in Sections 212.310 and 212.312 of 35 IAC Subpart K, and prepared by the owner or operator and submitted to the Agency for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)].
- ii. The amendment to this Section incorporating the applicability of Section 212.316 shall apply by May 11, 1993, or upon initial start-up, whichever occurs later [35 IAC 212.309(b)]
- b. The operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 IAC Subpart K and shall be submitted to the Agency for its review [35 IAC 212.312].
- c. As a minimum the operating program shall include the following [35 IAC 212.310]:
 - i. The name and address of the source;
 - ii. The name and address of the owner or operator responsible for execution of the operating program;
 - iii. A map or diagram of the source showing approximate locations of storage piles,

conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;

- iv. Location of unloading and transporting operations with pollution control equipment;
- v. A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil chemicals and dust suppressants utilized and equivalent methods utilized;
- vi. Estimated frequency of application of dust suppressants by location of materials; and
- vii. Such other information as may be necessary to facilitate the Agency's review of the operating program. [35 IAC 212.310]

7.13.8 Monitoring Requirements

None

7.13.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected SP, UR, PR and PL to demonstrate compliance with Condition 5.5.1 and 7.13.5, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the application of water, surfactants and street sweeping.
- b. Records of emissions in tons per year.

7.13.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected SP, UR, PR and PL with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions from or operation of the affected SP, UR, PR and PL in excess of the limits specified in Condition 7.13.3 within 30 days of such occurrence.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.13.12 Compliance Procedures

- a. Compliance with Condition 7.13.3 is demonstrated by the control requirements of Condition 7.13.5 and the operating requirements of Condition 7.13.7.
- b. Compliance with the emission limits in Conditions 5.5 shall be based on the recordkeeping requirements in Condition 7.13.9 and the emission factors and formulas listed below:

- i. Emission factor equations for the affected SP:

$$E_{SP} = 0.85 \times S$$

Where:

$$E_{SP} = \text{PM emissions in lbs}$$
$$S = \text{Material stored in tons}$$

This equation is based on the equations from USEPA guidance document "Particulate Emission Factors Applicable to The Iron and Steel Industry" (EPA-450/4-79-028)

- ii. Emission factor equation for the affected PR, UR, and PL:

$$E = 0.3539 \times P$$

Where:

$$E = \text{pounds of PM emissions}$$
$$P = \text{Steel production at the Arc Shop in tons}$$

This equation is based on the ratio of PM emissions to tons of steel produced at the arc shop. The PM emissions were estimated using equation from AP-42 Section 13.2.2 (dated 9/98) and records of actual vehicle miles traveled and silt content. The steel production used in the ratio was from the same year as the vehicle records.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after October 11, 2003 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

As of the date of issuance of this permit, there are no such economic incentive, marketable permit or emission trading programs that have been approved by USEPA.

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring

- (including test methods), recordkeeping, reporting, or compliance certification requirements;
- c. The changes do not constitute a modification under Title I of the CAA;
 - d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
 - e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
 - i. Describe the physical or operational change;
 - ii. Identify the schedule for implementing the physical or operational change;
 - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
 - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
 - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7) (f) of the Act]:

Monitoring Period

Report Due Date

January - June

September 1

July - December

March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;
- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;

- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
 - i. Illinois EPA - Air Compliance Section
 Illinois Environmental Protection Agency
 Bureau of Air
 Compliance Section (#40)
 P.O. Box 19276
 Springfield, Illinois 62794-9276
 - ii. Illinois EPA - Air Regional Field Office
 Illinois Environmental Protection Agency
 Division of Air Pollution Control
 5415 North University
 Peoria, Illinois 61614
 - iii. Illinois EPA - Air Permit Section (MC 11)
 Illinois Environmental Protection Agency
 Division of Air Pollution Control
 Permit Section
 P.O. Box 19506
 Springfield, Illinois 62794-9506
 - iv. USEPA Region 5 - Air Branch
 USEPA (AR - 17J)
 Air & Radiation Division
 77 West Jackson Boulevard
 Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into

this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance; or
 - ii. As otherwise authorized by the CAA, or the Act.

- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply With Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
 - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;
 - ii. The permitted source was at the time being properly operated;
 - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
 - iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.
- b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7) (o) (iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15) (a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;
- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15) (b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA 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 the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(l), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 Emissions of Particulate Matter from New Process Emission Units

10.1.1 Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972

- a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].
- b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.321(b)]:

$$E = A(P)^B$$

Where:

P = Process weight rate; and
 E = Allowable emission rate; and,

- i. Up to process weight rates of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.214	2.54
B	0.534	0.534

- ii. For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	11.42	24.8
B	0.16	0.16

- c. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 19, 1972 [35 IAC 212.321(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

10.2 Attachment 2 Emissions of Particulate Matter from Existing Process Emission Units

10.2.1 Process Emission Units for Which Construction or Modification Commenced Prior to After April 14, 1972

- a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].
- b. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

Where:

P = Process weight rate; and
 E = Allowable emission rate; and,

- i. Up to process weight rates up to 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

- ii. For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	25.21	55.0
B	0.11	0.11
C	- 18.4	- 40.0

- c. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.2	1.40

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

10.3 Attachment 3 - Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

10.4 Attachment 4 - Guidance on Revising This Permit

The Permittee must submit an application to the Illinois EPA using the appropriate revision classification in accordance with Sections 39.5(13) and (14) of the Act and 35 IAC 270.302. Specifically, there are currently three classifications for revisions to a CAAPP permit. These are:

1. Administrative Permit Amendment;
2. Minor Permit Modification; and
3. Significant Permit Modification.

The Permittee must determine, request, and submit the necessary information to allow the Illinois EPA to use the appropriate procedure to revise the CAAPP permit. A brief explanation of each of these classifications follows.

1. Administrative Permit Amendment

- Corrects typographical errors;
- Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
- Requires more frequent monitoring or reporting by the Permittee;
- Allows for a change in ownership or operational control of the source where no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Illinois EPA. This shall be handled by completing form 272-CAAPP, REQUEST FOR OWNERSHIP CHANGE FOR CAAPP PERMIT; or
- Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits.

2. Minor Permit Modification

- Do not violate any applicable requirement;
- Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- Do not require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a

visibility or increment analysis;

- Do not seek to establish or change a permit term or condition for which there is no corresponding underlying requirement and which avoids an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA; and
 - An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the CAA.
- Are not modifications under any provision of Title I of the CAA;
- Are not required to be processed as a significant permit modification; and
- Modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches.

An application for a minor permit modification shall include the following:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- The source's suggested draft permit/conditions;
- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
- Information as contained on form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT for the Illinois EPA to use to notify USEPA and affected States.

3. Significant Permit Modification

- Applications that do not qualify as either minor permit modifications or as administrative permit amendments;
- Applications requesting a significant change in existing monitoring permit terms or conditions;
- Applications requesting a relaxation of reporting or recordkeeping requirements; and
- Cases in which, in the judgment of the Illinois EPA,

action on an application for modification would require decisions to be made on technically complex issues. An application for a significant permit modification shall include the following:

- A detailed description of the proposed change(s), including all physical changes to equipment, changes in the method of operation, changes in emissions of each pollutant, and any new applicable requirements which will apply as a result of the proposed change. Note that the Permittee need only submit revised forms for equipment and operations that will be modified.

The Illinois EPA requires the information on the following appropriate forms to be submitted in accordance with the proper classification:

- Form 273-CAAPP, REQUEST FOR ADMINISTRATIVE PERMIT AMENDMENT FOR CAAPP PERMIT; or
- Form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT; or
- Form 200-CAAPP, APPLICATION FOR CAAPP PERMIT (for significant modification).

Application forms can be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms>.

Note that the request to revise the permit must be certified for truth, accuracy, and completeness by a responsible official.

Note that failure to submit the required information may require the Illinois EPA to deny the application. The Illinois EPA reserves the right to require that additional information be submitted as needed to evaluate or take final action on applications pursuant to Section 39.5(5)(g) of the Act and 35 IAC 270.305.



Illinois Environmental Protection Agency
 Division Of Air Pollution Control -- Permit Section
 P.O. Box 19506
 Springfield, Illinois 62794-9506

Application For Construction Permit (For CAAPP Sources Only)	For Illinois EPA use only
	I.D. number:
	Permit number:
	Date received:

This form is to be used by CAAPP sources to supply information necessary to obtain a construction permit. Please attach other necessary information and completed CAAPP forms regarding this construction/modification project.

Source Information		
1. Source name:		
2. Source street address:		
3. City:	4. Zip code:	
5. Is the source located within city limits? <input type="checkbox"/> Yes <input type="checkbox"/> No		
6. Township name:	7. County:	8. I.D. number:

Owner Information		
9. Name:		
10. Address:		
11. City:	12. State:	13. Zip code:

Operator Information (if different from owner)		
14. Name		
15. Address:		
16. City:	17. State:	18. Zip code:

Applicant Information	
19. Who is the applicant? <input type="checkbox"/> Owner <input type="checkbox"/> Operator	20. All correspondence to: (check one) <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Source
21. Attention name and/or title for written correspondence:	
22. Technical contact person for application:	23. Contact person's telephone number:

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Summary Of Application Contents	
24. Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs: a) Non-attainment New Source Review – 35 IAC Part 203; b) Prevention of Significant Deterioration (PSD) – 40 CFR 52.21; c) Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources – 40 CFR Part 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
25. Does the application identify and address all applicable emissions standards, including those found in the following: a) Board Emission Standards – 35 IAC Chapter I, Subtitle B; b) Federal New Source Performance Standards – 40 CFR Part 60; c) Federal Standards for Hazardous Air Pollutants – 40 CFR Parts 61 and 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
26. Does the application include a process flow diagram(s) showing all emission units and control equipment, and their relationship, for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
27. Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28. Does the application include the information as contained in completed CAAPP forms for all appropriate emission units and air pollution control equipment, listing all applicable requirements and proposed exemptions from otherwise applicable requirements, and identifying and describing any outstanding legal actions by either the USEPA or the Illinois EPA? Note: The use of "APC" application forms is not appropriate for applications for CAAPP sources. CAAPP forms should be used to supply information.	<input type="checkbox"/> Yes <input type="checkbox"/> No
29. If the application contains TRADE SECRET information, has such information been properly marked and claimed, and have two separate copies of the application suitable for public inspection and notice been submitted, in accordance with applicable rules and regulations?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable, No TRADE SECRET information in this application

Note 1: Answering "No" to any of the above may result in the application being deemed incomplete.

Signature Block	
This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.	
30. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete. Authorized Signature:	
BY:	_____
AUTHORIZED SIGNATURE	TITLE OF SIGNATORY
_____	_____/_____/_____
TYPED OR PRINTED NAME OF SIGNATORY	DATE

Note 2: An operating permit for the construction/modification permitted in a construction permit must be obtained by applying for the appropriate revision to the source's CAAPP permit, if necessary.

10.6 Attachment 6 - Guidance on Renewing This Permit

Timeliness - Pursuant to Section 39.5(5)(n) of the Act and 35 IAC 270.301(d), a source must submit to the Illinois EPA a complete CAAPP application for the renewal of a CAAPP permit not later than 9 months before the date of permit expiration of the existing CAAPP permit in order for the submittal to be deemed timely. Note that the Illinois EPA typically sends out renewal notices approximately 18 months prior to the expiration of the CAAPP permit.

The CAAPP application must provide all of the following information in order for the renewal CAAPP application to be deemed complete by the Illinois EPA:

1. A completed renewal application form 200-CAAPP, APPLICATION FOR CAAPP PERMIT.
2. A completed compliance plan form 293-CAAPP, COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE FOR CAAPP PERMIT.
3. A completed compliance certification form 296-CAAPP, COMPLIANCE CERTIFICATION, signed by the responsible official.
4. Any applicable requirements that became effective during the term of the permit and that were not included in the permit as a reopening or permit revision.
5. If this is the first time this permit is being renewed and this source has not yet addressed CAM, the application should contain the information on form 464-CAAPP, COMPLIANCE ASSURANCE MONITORING (CAM) PLAN.
6. Information addressing any outstanding transfer agreement pursuant to the ERMS.
7.
 - a. If operations of an emission unit or group of emission units remain unchanged and are accurately depicted in previous submittals, the application may contain a letter signed by a responsible official that requests incorporation by reference of existing information previously submitted and on file with the Illinois EPA. This letter must also include a statement that information incorporated by reference is also being certified for truth and accuracy by the responsible official's signing of the form 200-CAAPP, APPLICATION FOR CAAPP PERMIT and the form 296-CAAPP, COMPLIANCE CERTIFICATION. The boxes should be marked yes on form 200-CAAPP, APPLICATION FOR CAAPP PERMIT, as existing information is being incorporated by reference.
 - b. If portions of current operations are not as described in previous submittals, then in addition to the information above for operations that remain unchanged, the application must contain the necessary information on all changes, e.g., discussion of changes, new or revised CAAPP forms, and a revised fee

form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT, if necessary.

8. Information about all off-permit changes that were not prohibited or addressed by the permit to occur without a permit revision and the information must be sufficient to identify all applicable requirements, including monitoring, recordkeeping, and reporting requirements, for such changes.
9. Information about all changes made under 40 CFR 70.4(b)(12)(i) and (ii) that require a 7-day notification prior to the change without requiring a permit revision.

The Illinois EPA will review all applications for completeness and timeliness. If the renewal application is deemed both timely and complete, the source shall continue to operate in accordance with the terms and conditions of its CAAPP permit until final action is taken on the renewal application.

Notwithstanding the completeness determination, the Illinois EPA may request additional information necessary to evaluate or take final action on the CAAPP renewal application. If such additional information affects your allowable emission limits, a revised form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT must be submitted with the requested information. The failure to submit to the Illinois EPA the requested information within the time frame specified by the Illinois EPA, may force the Illinois EPA to deny your CAAPP renewal application pursuant to Section 39.5 of the Act.

Application forms may be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms.html>.

If you have any questions regarding this matter, please contact a permit analyst at 217/782-2113.

Mail renewal applications to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

10.7 Attachment 7 - Construction Permit

217/782-2113

CONSTRUCTION PERMIT -- PSD APPROVAL

PERMITTEE

Keystone Steel & Wire Company
Attn: John R. Skelley
7000 S.W. Adams Street
Peoria, Illinois 61641

Application No.: 99020046 I.D. No.: 143808AAA
Applicant's Designation: Phase 2 Date Received: February 10, 1999
Subject: Revise Phase II Production and Emissions Limits
Date Issued: June 1, 2000
Location: 7000 S.W. Adams Street, Peoria

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission sources and/or air pollution control equipment, consisting of physical and operational improvements to the Arc Shop to increase steel production as described in the above referenced application. This permit is subject to standard conditions attached hereto and the following special conditions:

In conjunction with this permit, approval is given with respect to the federal rules for Prevention of Significant Deterioration of Air Quality Regulations (PSD) for the above referenced equipment as described in the application, in that the Illinois Environmental Protection Agency (Illinois EPA) finds that the application fulfills all applicable requirements of 40 CFR 52.21. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., the Federal regulations promulgated thereunder at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (PSD), and a Delegation of Authority agreement between the United States Environmental Protection Agency and the Illinois EPA for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with the provisions of 40 CFR 124.19. This approval is also based upon and subject to the findings and conditions which follow:

Findings

1. Keystone Steel and Wire Company ("Keystone") is proposing to modify the electric arc furnace (EAF) and ladle metallurgical furnace (LMF) in its existing Arc Shop to increase steel production at its Peoria plant. In conjunction with the changes, Keystone also proposes to upgrade particulate matter control by installing an additional baghouse and replacing the filter bags in existing baghouses with more effective filter bags.
2. The plant is located in Limestone Township in Peoria County. The area is currently designated attainment for all criteria pollutants.

3. The proposed project has potential emissions as listed in Table II which are more than 25 tons/year for particulate matter (PM), 40 tons/year for sulfur dioxide (SO₂), 40 tons/year for nitrogen oxides (NO_x), 100 tons/year for carbon monoxide (CO), 15 tons/year for PM₁₀, and more than 0.6 tons/year for lead (Pb). Potential emissions of volatile organic compounds (VOC) are less than 40 tons/yr. The project is therefore subject to PSD review as a major modification for PM, PM₁₀, SO₂, NO_x, CO, and Pb emissions.
4. The project must be designed, constructed and operated so that emissions are in compliance with (i) all applicable Board emission limits, (ii) Best Available Control Technology (BACT) on emissions of PM, SO₂, NO_x, CO, and Pb, and (iii) applicable Federal New Source Performance Standards (NSPS). The application submitted by Keystone, as reviewed by the Illinois EPA shows that the project will comply with these requirements.
5. The air quality analysis submitted by Keystone and reviewed by the Illinois EPA shows that the project will not cause a violation of the national ambient air quality standards (NAAQS) and increments.
6. The Illinois EPA has determined that the application for the proposed project complies with all applicable Illinois Air Pollution Control Board Regulations and the federal Prevention of Significant Deterioration of Air Quality Regulations (PSD), 40 CFR 52.21.
7. A copy of the application, and the Illinois EPA's project summary and draft permit were placed in a location in Peoria, and the public has been given notice and opportunity to examine this material and to submit comments and to request and participate in a public hearing on this matter. At the same time as this permit was issued, a copy of this permit and the Illinois EPA's response to comments was sent to all persons who submitted comments.

The Illinois EPA is issuing approval subject to the following conditions and consistent with the specifications and data included in the application. Any departure from the conditions of this approval or terms expressed in the application would need to receive prior written authorization the Illinois EPA.

Conditions

ELECTRIC ARC FURNACE (EAF) AND LADLE METALLURGICAL FURNACE (LMF)

1. The renovation to the EAF and LMF requires the implementation of Best Available Control Technology (BACT) for all pollutants that exceed the significant emission thresholds.
2. The EAF including the transformer, the capture and control system, and dust handling system are subject to a New Source Performance Standard (NSPS), 40 CFR 60, Subpart A and AA

for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 7, 1983.

3. Pursuant to 40 CFR 60.11(d), at all times the Permittee shall maintain and operate the EAF including the transformer, the capture and control system, and the dust handling system in a manner consistent with good air pollution control practice for minimizing emissions.
4. Particulate matter emissions from the EAF, including meltdown and refining, charging, tapping, slagging, electrode port leakage, and ladle lancing shall not exceed the applicable allowable hourly emission rate specified by 35 Ill. Adm. Code 212.321 or 212.322 [35 Ill. Adm. Code 212.448].
- 5a. Continued operation of the EAF, LMF, and LMS in excess of the applicable emission standards of 35 Ill. Adm. Code, Part 212 is allowed during malfunction or breakdown of any Arc Shop related equipment for a limited period as necessary to prevent injury to personnel or severe damage to equipment [35 Ill. Adm. Code, Part 201, Subpart I].
 - i. The emission units may continue to operate until the processing of material in progress is complete.
 - ii. Reasonable measures shall be taken to minimize emissions during the malfunction or breakdown.
 - iii. The Permittee shall notify the Illinois EPA's Regional Office by telephone as soon as possible during normal working hours upon the occurrence of excess emissions due to malfunction or breakdown. The Permittee shall comply with all reasonable and safe directives of the Regional Office regarding such malfunction or breakdown.
- b. Within five (5) working days of occurrence of continued operation with excess emissions during the malfunction or breakdown, the Permittee shall give written follow-up notice to the Illinois EPA's Regional Office which contains the following outlined information:
 - i. Date, time, and duration of the malfunction or breakdown;
 - ii. A description of the malfunction or breakdown with a detailed explanation of the cause, if known;
 - iii. An estimate of the quantity of emissions;
 - iv. The measures used to reduce the quantity of emissions and the duration of the occurrence; and
 - v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.

6. For the EAF and LMF, the Permittee shall implement the following control technology which has been determined to meet BACT:
 - a. Captured PM, PM₁₀ and Pb emissions will be ducted to baghouses:
 - i. During the melting and refining steps, the existing ventilation system consisting of DEC's on both furnaces shall be used to capture emissions. These captured emissions shall be ducted to baghouses.
 - ii. During the charging and tapping steps, emissions shall be collected by a penthouse canopy. A penthouse canopy is one that extends above the roof line allowing additional residence time.
 - iii. Baghouses shall be fitted with bags capable of controlling emissions at or below 0.0018 gr/dscf.
 - iv. Emissions from the Arc Shop baghouses shall not exceed 3 percent opacity.
 - b. Uncaptured PM, PM₁₀ and Pb emissions will be emitted through the roof monitor:
 - i. The portion of the roof monitor above the EAF shall be closed.
 - ii. Emissions of PM, PM₁₀ and Pb from the roof monitor shall not exceed 6 percent opacity except:
 - A. Shop opacity less than 20 percent may occur during charging periods; and
 - B. Shop opacity less than 40 percent may occur during tapping.
 - c. CO emissions shall be controlled by the DEC, Oxy/Fuel Burners, and Combustion Chamber.
 - d. NO_x emissions shall be controlled by the DEC and Oxy/Fuel Burners.
 - e. SO₂ emissions shall be controlled by using low sulfur injection coke (0.65% or less).
7. No owner or operator shall cause to be discharged into the atmosphere from the dust handling system any gases that exhibit 10 percent opacity or greater, pursuant to 40 CFR 60.272a(b).
- 8a. Steel production in the EAF and LMF system shall not exceed 115,000 tons per month and 1,200,000 tons per year.

- b. Emissions from the EAF and LMF system shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor</u>		<u>E M I S S I O N S</u>	
	<u>(Lb/Ton Steel Produced)</u>		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
PM	Baghouse Vents	0.13	7.48	78.00
	Roof Monitor	0.14	8.05	84.00
PM ₁₀	Baghouse Vents	0.10	5.75	60.00
	Roof Monitor	0.11	6.33	66.00
Pb	Baghouse Vents	0.003	0.18	1.80
	Roof Monitor	0.003	0.18	1.80
CO	Baghouse Vents	1.34	77.05	804.00
NO _x	Baghouse Vents	0.51	29.33	306.00
SO ₂	Baghouse Vents	0.20	11.50	120.00
VOM	Baghouse Vents	0.13	7.48	78.00

These limits are based on the maximum steel production and the application of BACT. Compliance with annual limits shall be determined from a running total of 12 months of data.

9. The Permittee shall perform the following emission monitoring requirements:
 - a. Except as provided under paragraphs 9(b) and 9(c), 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 [40 CFR 60.273a(a)].
 - b. No continuous monitoring system shall be required on any control device serving the dust-handling system [40 CFR 60.273a(b)].
 - c. A continuous monitoring system for the measurement of opacity is not required on modular, multiple-stack, or negative-pressure control devices; or if the visible emissions from the control device are performed by a certified visible emission observer as follows: Visible emission observations are conducted at least once per day when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. IN this case, 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 40 CFR 60.272a(a) [40 CFR 60.273a(c)].

- 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 [40 CFR 60.273a(d)].

10. The Permittee shall perform the following monitoring of operations requirements:

- a. The owner or operator shall maintain records of the following information:
 - i. All data obtained under paragraph 10(b) [40 CFR 60.274a(a) (2)]; and
 - ii. All monthly operational status inspections performed under paragraph 10(c) [40 CFR 60.274a(a) (2)].
- b. Except as provided under paragraph 9(d), the owner or operator 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 10(f)) 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 [40 CFR 60.274a(b)].

- c. When the owner or operator is required to demonstrate compliance with the standards under 40 CFR 60.272a(a)(3) and at any other time the Administrator may require that (under section 114 of the Act, 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 10(b)(1) or 10(b)(2). 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 40 CFR 60.276a(c) [40 CFR 60.274a(c)].
- d. 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 holds in ductwork or hoods, flow constrictions cause by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed [40 CFR 60.274a(d)].
- e. The owner or operator may petition the Administrator to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system [40 CFR 60.274a(e)].
- f. During any performance test required under 40 CFR 60.8, and for any report thereof required by 40 CFR 60.275a(d), or to determine compliance with 40 CFR 60.272a(a)(3), the owner or operator shall monitor the following information for all heats covered by the test [40 CFR 60.274a(h)]:

- i. Charge weights and materials, and tap weights and materials [40 CFR 60.274a(h)(1)];
 - ii. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing [40 CFR 60.274a(h)(2)];
 - iii. Control device operation log [40 CFR 60.274a(h)(3)]; and
 - iv. Continuous monitor or Reference Method 9 data [40 CFR 60.274a(h)(4)].
- 11. The Permittee shall perform the following 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 [40 CFR 60.276a(a)].
 - 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 [40 CFR 60.276a(b)].
 - c. Operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under 40 CFR 60.274a(c) or operation at flow rates lower than those established under 40 CFR 60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually [40 CFR 60.276a(c)].
 - 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 [40 CFR 60.276a(d)].
 - e. When the owner or operator of an EAF or AOD is required to demonstrate compliance with the standard under 40 CFR 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 30 days
prior to the performance test [40 CFR 60.276a(e)].

- f. For the purpose of this subpart, the owner or operator shall conduct the demonstration of compliance with 40 CFR 60.272a(a) and furnish the Administrator a written report of the results of the test. This report shall include the following information [40 CFR 60.276a(f)]:
- i. Facility name and address;
 - ii. Plant representative;
 - iii. Make and model of process, control device, and continuous monitoring equipment;
 - iv. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
 - v. Rated (design) capacity of process equipment;
 - vi. Those data required under §60.274a(h) of this subpart;
 - A. List of charge and tap weights and materials;
 - B. Heat times and process log;
 - C. Control device operation log; and
 - D. Continuous monitor or Reference Method 9 data.
 - vii. Test dates and test times;
 - viii. Test company;
 - ix. Test company representative;
 - x. Test observers from outside agency;
 - xi. Description of test methodology used, including any deviation from standard reference methods;
 - xii. Schematic of sampling location;
 - xiii. Number of sampling points;
 - xiv. Description of sampling equipment;
 - xv. Listing of sampling equipment calibrations and procedures;
 - xvi. Field and laboratory data sheets;
 - xvii. Description of sample recovery procedures;

- xviii. Sampling equipment leak check results;
 - xix. Description of quality assurance procedures;
 - xx. Description of analytical procedures;
 - xxi. Notation of sample blank corrections; and
 - xxii. Sample emission calculations.
- g. The owner or operator shall maintain records of all shop opacity observations made in accordance with 40 CFR 60.273a(d). All shop opacity observations in excess of the emission limit specified in 40 CFR 60.272a(a) (3) shall indicate a period of excess emission, and shall be reported to the administrator semi-annually, according to 40 CFR 60.7(c) [40 CFR 60.276a(g)].
 - h. Steel production for the EAF and LMF (tons/month and tons/year).
 - i. Sulfur content of the coke purchased (percent).

LADLE PREHEATER 1 AND LADLE PREHEATER 2

The ladle preheaters will not increase operation and, therefore, will not increase emissions. BACT is not required for these emission units.

- 12a. Natural gas usage for the two ladle preheaters shall not exceed 18,823,200 scf/month and 188,496,000 scf/year.
- b. Emissions from the combustion of fuel by the two ladle preheaters shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>E M I S S I O N S (Tons/Mo) (Tons/Yr)</u>	
Carbon Monoxide (CO)	84	0.80	7.92
Nitrogen Oxides (NO _x)	100	0.95	9.43

These limits are based on the maximum fuel usage and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

- c. The Permittee shall keep monthly records of the following items:
 - i. Natural gas usage for the two ladle preheaters (mmscf/mo and mmscf/yr).

SEQUENCE CASTER

PM emissions from the sequence caster will be increasing due to the production increase; therefore, the sequence caster must demonstrate BACT for PM emissions. BACT for the sequence caster is "no control".

13a. Natural gas usage for the sequence caster shall not exceed 12,269,300 scf/month and 122,865,120 scf/year.

14a. Emissions from the sequence caster shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor</u>	<u>E M I S S I O N S</u>	
		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
PM	0.015 lb/ton	0.87	9.00
PM ₁₀	0.008 lb/ton	0.46	4.80
CO	84 lb/mmscf	0.52	5.16
NO _x	100 lb/mmscf	0.62	6.15

These limits are based on the maximum rate, uncontrolled emission factors for PM and PM₁₀ from USEPA document "Iron and Steel Plant Emission Parameters", G. McCutchen, 9/77, and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Particulate matter emissions from liquid steel charging in continuous casting operations shall be controlled by chemical or mechanical shrouds or methods of comparable effectiveness, [35 Ill. Adm. Code 212.450].

15. The Permittee shall keep monthly records of the following items:

a. Natural gas usage for the sequence caster (scf/month and scf/year).

RODMILL REHEAT FURNACE

16a. Steel billet throughput in the reheat furnace shall not exceed the following limits:

<u>Tons/Month</u>	<u>Tons/Year</u>
86,250	900,000

These limits are based on the maximum steel billet throughput. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Emissions from the reheat furnace shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(Lb/Ton)</u>	<u>E M I S S I O N S</u>	
		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Carbon Monoxide (CO)	0.038	1.64	17.01
Nitrogen Oxides (NO _x)	0.197	8.50	88.70

These limits are based on the maximum steel billet throughput specified in Condition 16a, and substantiated by a stack test conducted on August 6, 1998. Compliance with annual limits shall be determined from a running total of 12 months of data.

SLAG HANDLING

Fugitive dust emissions are generated by the movement of the front end loaders over the unpaved slag cooling and handling area. BACT for this operation is the use of a water spray system in the slag cooling handling area, configured such that the dangers of contact with the hot slag is minimized.

17. Emissions from the slag handling operations shall not exceed 0.013 tons per month and 0.15 tons per year. These limits are based on the maximum steel production and the minimum control efficiency (80%).
18. Emissions from the slag handling area shall be controlled by the use of wet suppression which shall provide at least 80 percent control efficiency.

PLANT ROADS

Keystone transports steel billets and coiled rod to and from the Arc Shop and Rod Mill via plant roadways generated fugitive dust. An increase in production will cause an increase in truck traffic and, hence, increase road fugitives. Most of the plant roads are paved which minimizes the dust; however, the roads in the area of the scrap yard and slag area are not. These roadways are covered by crushed slag, which generates particulate emissions.

19. For the plant roads, the Permittee shall implement the following control technology, which has been determined to meet BACT:
 - a. All paved roads shall be swept twice per week and all paved parking areas shall be swept once per month.
 - b. A chemical suppressant shall be applied to unpaved roads and areas once per month providing an 80 percent reduction in emissions of particulate matter and PM₁₀.

EMISSIONS TESTING

- 20a.
 - i. Within 180 days from the completion of the construction under this permit, the emissions of PM, PM₁₀, NO_x, CO, VOM, Pb, SO₂ and opacity from the Arc Shop control system shall be measured by an approved testing service, during conditions which are representative of maximum emissions, to demonstrate compliance with the conditions of this permit.
 - ii. After the initial tests required by this permit, the Permittee shall also perform the above tests within 90 days of a written request by the Illinois EPA.
- b.
 - i. The following methods and procedures shall be used for the testing, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A for USEPA test methods.

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Particulate Matter	USEPA Method 5D
PM ₁₀	USEPA Method 201 or 201A
Nitrogen Oxides	USEPA Method 7
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Lead	USEPA Method 12
Volatile Organic Material	USEPA Method 25A
Sulfur Dioxide	USEPA Method 6, 6a, 6b, or 6c

- ii. For compliance purposes, all particulate matter measured shall be considered PM₁₀ unless emissions are tested by the above referenced test method for PM₁₀ or another approved test method.
- c. At least 60 days prior to the actual date of testing, the Permittee shall submit a written test plan to the Illinois EPA for review and approval. This plan shall include as a minimum:
- i. The name (or other identification) of the emission unit(s) to be tested and the name and address of the facility at which they are located;
 - ii. The name and address of the independent testing service(s) performing the tests, with the names of the individuals who may be performing sampling and analysis and their experience with similar tests;
 - iii. The specific determinations of emissions and/or performance which are intended to be made, including the site(s) in the ductwork or stack at which sampling will occur;
 - iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and minimum performance, the values of operating parameters for the emission unit, including associated control equipment, at or within which compliance is intended to be shown, and the means by which the operating parameters will be determined;
 - v. The procedures which will be used for testing, including test method(s) with the specific analysis method, if the method can be used with different analysis methods, the specific sampling and analytical procedures, and the calibration and other quality control procedures;
 - vi. A description and justification for any minor changes in standard methods and procedures proposed to

accommodate the specific circumstances of testing and for any proposed use of an alternative test method;

vii. An outline of the contents of the Test Report.

d. The Illinois EPA shall be notified before these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

e. The Final Report of these tests shall include as a minimum:

i. A tabular summary of results which includes:

- A. Process/mode tested (e.g., charging, meltdown, tapping);
- B. Process weight rate;
- C. Production rate;
- D. Allowable emission limit;
- E. Measured emission rate;
- F. Determination of control or capture efficiencies for the baghouses, post-combustion system, direct evacuation control, combustion chamber, canopy, etc.;
- G. Emission factor (e.g., lb pollutant emitted per ton steel produced);
- H. Compliance demonstrated - Yes/No; and
- I. Arc Shop control system operating parameters (e.g., current to fans, pressure drop across baghouses, air flow in system, etc.).

ii. Description of test methods and procedures used, including description of sampling train, analysis equipment, and test schedule;

iii. Detailed description of test conditions, including:

- A. Pertinent process information (e.g. fuel or raw material consumption) and

B. Control equipment information, i.e. equipment condition and operating parameters during testing.

iv. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration;

f. Copies of the Final Report for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized and in no case later than upon the submittal of the operating permit application for this production increase.

g. Submittals of information shall be made as follows:

i. Notice of Test - one copy to Regional Office and one copy to Compliance Section.

ii. Final Report - one copy to Regional Office and one copy to Compliance Section.

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
5415 North University
Peoria, Illinois 61614

21. Any exceedance of the requirements of this permit as determined by the recordkeeping required by this permit shall be reported to the Illinois EPA in writing within 30 days of the exceedance. The report shall include a description of the incident, identify the emission units involved, provide the type and amount of the emissions during the exceedance, and describe corrective actions taken at the time of the exceedance and subsequent actions taken to prevent future exceedances. The report shall be sent to the following:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
5415 North University
Peoria, Illinois 61614

22. The Permittee may operate under the terms and conditions of this construction permit for 270 days from the completion of construction under this permit, superseding standard condition 6(b).

If you have any questions on this, please call Jason Schnepf at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:jar

cc: Region 2
USEPA

Attachment A

Summary of Changes in Annual Emissions (in Tons)

Change to Operation	Baseline Years	Baseline Steel Production		
		Arc Shop	Caster	Rod Mill
1987 Oxy-fuel Burner Addition	1980 & 1981 ¹	612,200	Not Limited	Not Limited
1992 Phase I Modifications	1990 & 1991	638,312	611,234	633,862
1995 Phase II Modifications	1990 & 1991	638,312	611,234	633,862
1999 Arc Shop Modifications	1997 & 1998	711,000	N/A	633,862

¹ The production levels during the years 1982 through 1987 were not representative of historical production due to foreign steel dumping resulting in a depression of domestic steel production.

Change to Operation	Applicable Years	Steel Production Limits		
		Arc Shop	Caster	Rod Mill
1987 Oxy-fuel Burner Addition	1988 - 1992	660,000	Not Limited	Not Limited
1992 Phase I Modifications	1993 - 1995	750,000	750,000	960,000
1995 Phase II Modifications	1996 - 1999	820,000	820,000	900,000
1999 Arc Shop Modifications	1999 to Present	1,200,000	N/A	900,000

Annual Emissions from the Arc Shop Before and After 1987 Oxy-fuel Burner Addition

Pollutant	Emission Factor (Lb/Ton)		Annual Emissions (Tons/Yr)	
	Baseline	Post Project	Baseline	Post Project
TSP	0.640	0.640	195.90	211.20
PM ₁₀	0.490	0.490	149.99	161.70
Lead	0.015	0.015	4.59	4.95
CO	3.400	1.460	1,040.74 ^z	481.80 ^z
NO _x	0.690	0.690	211.21 ^z	227.70 ^z
VOM	0.130	0.130	39.79	42.90

Emissions Increases resulting from Oxy-fuel Burner Addition

Pollutant	Baseline Emissions (Tons/Yr)	Emission Limits (Tons/Yr)	Emissions Increases (Tons/Yr)	Significant Level (Tons/Yr)
TSP	195.90	211.20	- 3.40	25.0
PM ₁₀	149.99	161.70	- 2.59	15.0
Lead	4.59	4.95	0.36	0.6
CO	1,040.74 ^z	481.80 ^z	- 558.94	100
NO _x	211.21 ^z	227.70 ^z	16.49	40.0
VOM	39.79	42.90	3.11	40.0

² NO_x and CO emissions from the combustion of natural gas by the two ladle preheaters, Tundish preheater, Tundish heater, and billet cutting torches are not quantified in this netting exercise since emissions from these units are determined by fuel usage, not steel production, and have not increased during the years addressed by this netting exercise.

Annual Emissions Before and After Phase I Modifications

Pollutant	Emission Factor (Lb/Ton)		Annual Emissions (Tons/Yr)	
	Baseline	Post Project	Baseline	Post Project
Arc Shop				
TSP	0.640	0.540	204.26	202.50
PM ₁₀	0.490	0.420	156.39	157.50
Lead	0.015	0.013	4.79	4.88
CO	1.460	1.460	465.97 ²	547.50 ²
NO _x	0.690	0.690	220.22 ²	258.75 ²
VOM	0.130	0.130	41.49	48.75
Caster Building				
TSP	0.015	0.0003	4.58	0.11
PM ₁₀	0.008	0.0002	2.44	0.06
Lead	0.000	0.000	0.00	0.00
CO	0.000	0.000	0.00 ²	0.00 ²
NO _x	0.346	0.000	0.00 ²	0.00 ²
VOM	0.000	0.000	0.00	0.00
Rod Mill Reheat Furnace				
TSP	0.009	0.009	2.85	4.32
PM ₁₀	0.007	0.007	2.22	3.36
Lead	0.000	0.000	0.00	0.00
CO	0.038	0.038	11.98	18.14
NO _x	0.346	0.197	109.53	94.61
VOM	0.000	0.000	0.00	0.00

Source-wide Emissions Increases Resulting From Phase I Modifications

Pollutant	Baseline Emissions (Tons/Yr)	Emission Limits (Tons/Yr)	Emissions Increases (Tons/Yr)	Significant Level (Tons/Yr)
TSP	211.70	206.93	- 4.76	25.0
PM ₁₀	161.05	160.92	- 0.13	15.0
Lead	4.79	4.88	0.09	0.6
CO	477.94 ²	565.64 ²	87.90	100.0
NO _x	329.75 ²	353.35 ²	24.65	40.0
VOM	41.49	48.75	7.26	40.0

² NO_x and CO emissions from the combustion of natural gas by the two ladle preheaters, Tundish preheater, Tundish heater, and billet cutting torches are not quantified in this netting exercise since emissions from these units are determined by fuel usage, not steel production, and have not increased during the years addressed by this netting exercise.

The following control equipment/measures were implemented as part of the Phase I production increases:

- Closing of a large part of the Arc Shop roof monitor
- Installation of low NO_x burners in the Rod Mill reheat furnace
- Installation of a baghouse control system on the continuous billet caster

Annual Emissions Before and After Phase II Modifications

Pollutant	Emission Factor (Lb/Ton)		Annual Emissions (Tons/Yr)	
	Baseline	Post Project	Baseline	Post Project
Arc Shop				
TSP	0.640	0.430	204.26	176.30
PM ₁₀	0.490	0.330	156.39	135.30
Lead	0.015	0.010	4.79	4.10
CO	1.460	1.340	465.97 ²	549.40 ²
NO _x	0.690	0.650	220.22 ²	266.50 ²
VOM	0.130	0.130	41.49	53.30
Caster Building				
TSP	0.015	0.0003	4.58	0.12
PM ₁₀	0.008	0.0002	2.44	0.07
Lead	0.000	0.000	0.00	0.00
CO	0.000	0.000	0.00 ²	0.00 ²
NO _x	0.000	0.000	0.00 ²	0.00 ²
VOM	0.000	0.000	0.00	0.00
Rod Mill Reheat Furnace				
TSP	0.009	0.009	2.85	4.05
PM ₁₀	0.007	0.007	2.22	3.15
Lead	0.000	0.000	0.00	0.00
CO	0.038	0.038	11.98	17.01
NO _x	0.346	0.197	109.53	88.70
VOM	0.000	0.000	0.00	0.00

Source-wide Emissions Increases Resulting From Phase II Modifications

Pollutant	Baseline Emissions (Tons/Yr)	Emission Limits (Tons/Yr)	Emissions Increases (Tons/Yr)	Significant Level (Tons/Yr)
TSP	211.70	180.47	- 31.22	25.0
PM ₁₀	161.05	138.52	- 22.53	15.0
Lead	4.79	4.10	- 0.69	0.6
CO	477.94 ²	566.41 ²	88.78	100.0
NO _x	329.75 ²	355.20 ²	27.01	40.0
VOM	41.49	53.30	11.81	40.0

² NO_x and CO emissions from the combustion of natural gas by the two ladle preheaters, Tundish preheater, Tundish heater, and billet cutting torches are not quantified in this netting exercise since emissions from these units are determined by fuel usage, not steel production, and have not increased during the years addressed by this netting exercise.

The following control equipment/measures were implemented as part of the Phase II production increases:

- Add two additional air/oxy/fuel burners for a total of four to the EAF
- Enlarge DEC ducting

- Install water-cooled duct and peak shaver in the DEC system
- Install a dropout box/combustion chamber in the DEC system
- Modified canopy hood system

Summary of Emission Changes Associated With The Arc Shop Modifications

EAF & LMF Emission Summary

<u>Pollutant</u>	<u>Actual Emissions* Tons/Year</u>	<u>Potential Emissions Tons/Year</u>	<u>Emissions Increase Tons/Year</u>
PM	124.43	162.00	37.57
PM ₁₀	95.99	126.00	30.01
Pb	2.84	3.60	0.76
CO	476.37	804.00	327.63
NO _x	231.08	306.00	74.92
VOM	46.22	78.00	31.78
SO ₂	92.43	120.00	27.57

Sequence Caster Emission Summary

<u>Pollutant</u>	<u>Actual Emissions* Tons/Year</u>	<u>Potential Emissions Tons/Year</u>	<u>Emissions Increase Tons/Year</u>
PM	5.33	9.00	3.67
PM ₁₀	2.84	4.80	1.96

Slag Handling Emission Summary

<u>Pollutant</u>	<u>Actual Emissions* Tons/Year</u>	<u>Potential Emissions Tons/Year</u>	<u>Emissions Increase Tons/Year</u>
PM	0.0884	0.15	0.0616
PM ₁₀	0.0884	0.15	0.0616

Plant Roads Emission Summary

<u>Pollutant</u>	<u>Actual Emissions* Tons/Year</u>	<u>Potential Emissions Tons/Year</u>	<u>Emissions Increase Tons/Year</u>
PM	228.09	183.47	-44.62
PM ₁₀	50.81	40.87	- 9.94

Arc Shop Modification Emission Summary Totals

<u>Pollutant</u>	<u>Actual Emissions* Tons/Year</u>	<u>Potential Emissions Tons/Year</u>	<u>Emissions Increase Tons/Year</u>
PM	357.9384	354.62	-3.3184
PM ₁₀	149.7284	171.82	22.0916
Pb	2.84	3.60	0.76
CO	476.37	804.00	327.63
NO _x	231.08	306.00	74.92
VOM	46.22	78.00	31.78
SO ₂	92.43	120.00	27.57

* Actual emissions are based on an average of the actual emissions from the previous two calendar years.

DES:JMS:psj