

217/782-2113

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

PERMITTEE

Castwell Products
Attn: Shannon Williams
7800 North Austin Avenue
Skokie, Illinois 60077

<u>Application No.:</u> 95110072	<u>I.D. No.:</u> 031288AAD
<u>Applicant's Designation:</u>	<u>Date Received:</u> November 17, 1995
<u>Operation of:</u> Gray Iron Foundry	
<u>Date Issued:</u> January 17, 2001	<u>Expiration Date</u> ² : January 17, 2006
<u>Source Location:</u> 7800 North Austin Avenue, Skokie, Cook, IL 60078	
<u>Responsible Official:</u> Charlie Hoffman	

This permit is hereby granted to the above-designated Permittee to operate a Gray Iron Foundry, 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 Nathan A. Frank at 217/782-2113.

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

DES:NAF:psj

cc: Illinois EPA, FOS, Region 1
USEPA

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.

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 SOURCE IDENTIFICATION	4
1.1 Source	
1.2 Owner/Parent Company	
1.3 Operator	
1.4 General Source Description	
2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT	5
3.0 INSIGNIFICANT ACTIVITIES	7
3.1 Identification of Insignificant Activities	
3.2 Compliance with Applicable Requirements	
3.3 Addition of Insignificant Activities	
4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE	9
5.0 OVERALL SOURCE CONDITIONS	13
5.1 Source Description	
5.2 Applicable Regulations	
5.3 Non-Applicability of Regulations of Concern	
5.4 Source-Wide Operational and Production Limits and Work Practices	
5.5 Source-Wide Emission Limitations	
5.6 General Recordkeeping Requirements	
5.7 General Reporting Requirements	
5.8 General Operational Flexibility/Anticipated Operating Scenarios	
5.9 General Compliance Procedures	
6.0 EMISSION REDUCTION MARKET SYSTEM (ERMS)	19
6.1 Description of ERMS	
6.2 Applicability	
6.3 Recordkeeping and Reporting	
6.4 Federal Enforceability	
7.0 UNIT SPECIFIC CONDITIONS	21
7.1 Shell Mold Process	
7.2 Stack Molding Operations	
7.3 Core Making Operations	
7.4 Greensand Molding, Pouring, Cooling, and Shakeout Processes	
7.5 Sand Receiving, Storage, and Transporting Operations	
7.6 Iron Melting Operations	
7.7 Cleaning, Finishing, and Heat Treating Operations	

7.8	Soil/Water Treatment System	
8.0	GENERAL PERMIT CONDITIONS	76
8.1	Permit Shield	
8.2	Applicability of Title IV Requirements	
		<u>PAGE</u>
8.3	Emissions Trading Programs	
8.4	Operational Flexibility/Anticipated Operating Scenarios	
8.5	Testing Procedures	
8.6	Reporting Requirements	
8.7	Obligation to Comply with Title I Requirements	
9.0	STANDARD PERMIT CONDITIONS	81
9.1	Effect of Permit	
9.2	General Obligations of Permittee	
9.3	Obligation to Allow Illinois EPA Surveillance	
9.4	Obligation to Comply with Other Requirements	
9.5	Liability	
9.6	Recordkeeping	
9.7	Annual Emissions Report	
9.8	Requirements for Compliance Certification	
9.9	Certification	
9.10	Defense to Enforcement Actions	
9.11	Permanent Shutdown	
9.12	Reopening And Reissuing Permit For Cause	
9.13	Severability Clause	
9.14	Permit Expiration and Renewal	
10.0	ATTACHMENTS	
10.1	Attachment 1 - Emissions of Particulate Matter from New Process Emission Units	1-1
10.2	Attachment 2 - Emissions of Particulate Matter from Existing Process Emission Units	2-1
10.3	Attachment 3 - Example Certification by a Responsible Official	3-1
10.4	Attachment 4 - Guidance on Revising This Permit	4-1
10.5	Attachment 5 - Form 199-CAAPP, Application For Construction Permit (For CAAPP Sources Only)	5-1

1.0 SOURCE IDENTIFICATION

1.1 Source

Castwell Products, Inc.
7800 North Austin Avenue
Skokie, Illinois 60077
847/966-5050

I.D. No.: 031288AAD
Standard Industrial Classification: 3321

1.2 Owner/Parent Company

Citation Corporation
2 Office Park Circle, Suite 204
Birmingham, Alabama 35223

1.3 Operator

Castwell Products
7800 North Austin Avenue
Skokie, Illinois 60077

Shannon Williams, Environmental Engineer
847/966-5050

1.4 General Source Description

Castwell Products is located at 7800 North Austin Avenue, Skokie.
The source produces gray iron and iron alloy castings.

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
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CFR	Code of Federal Regulations
CO	Carbon Monoxide
ERMS	Emissions Reduction Market System
°F	Degrees Fahrenheit
HAP	Hazardous Air Pollutant
hr	Hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
Illinois EPA	Illinois Environmental Protection Agency
kg	Kilogram
kW	kilowatts
lb	pound
ILCS	Illinois Compiled Statutes
MBtu	Million British thermal units
mmHg	Millimeters of Mercury
mmscf	Million Standard Cubic Feet
Mg	Megagrams
mo	Month
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
TEA	Triethylamine
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material
Yr	Year

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:

Coleman Core Drying Oven
Laboratory Operations
Natural gas combustion units with a rated capacity less than 10 MBtu/hr

- 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:

None

- 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:

None

- 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
15 Hutchinson Shell Molding Machines	Resin coated sand is formed into a mold. The molds are hardened by natural gas fired burners rated at 120 MBtu/hr	#2301: 11/1984 #2302: 3/1967 #2303: 3/1967 #2304: 3/1967 #2305: 3/1967 #2306: 3/1967 #2307: 3/1967 #2308: 3/1967 #2309: 11/1984 #2310: 3/1970 #2311: 3/1967 #2312: 3/1967 #2314: 2/1977	Baghouse #2604 and Baghouse #2780
Shell Conveyor	Iron pouring, cooling and shell shakeout	January, 1965	Baghouse #2512, Baghouse #2515, and Hydrofilter #2858
Shell sand storage silo	Storage of resin coated shell sand	January, 1975	Baghouse #1540
3 twin stack molding machines	Stack molds are formed and hardened	November, 1982	Baghouse #2512
3 mini stack molding machines	Stack molds are formed and hardened	January, 1972	Baghouse #2512
2 pouring/cooling/shakeout chambers	Iron pouring, cooling and stack mold shakeout	January, 1975	Baghouse #2512
Vibrating screen sand separator	Recovery of reusable sand from the stack molding machines	January, 1992	Baghouse #2269
12 Shell Core Making Machines	Cores are molded and heat cured	#3501: 1/1964 #3502: 5/1963 #3503: 4/1961 #3504: 6/1960 #3505: 6/1981 #3506: 6/1981 #3521: 4/1967 #3522: 9/1964 #3523: 10/1961 #3551: 11/1969 #3553: 11/1969 #3554: 11/1981	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
6 Iso-cure Core Making Machines	Cores are molded and cured with TEA	#3341: 3/1982 #3311: 1/1969 #3312: 3/1985 #3314: 11/1998 #3321: 1/1956 #3361: 11/1981	Gaylord Amine Scrubber #3328 with Cyclone
Combi-Core Iso-Cure Core Machine	Cores are molded and cured with TEA	April, 1994	Gaylord Amine Scrubber #3328 with Cyclone
Hunter No. 10	Molding, pouring, and cooling production line	June, 1988	Hydrofilter #2862
Hunter No. 20	Molding, pouring, and cooling production line	October, 1986	Hydrofilter #2862
Disa #1	Molding, pouring, cooling, and mold breakup production line	July, 1969	Hydrofilter #2862
Greensand Shakeout	Molds from Hunter No. 10 and Hunter No. 20 are separated from metal castings	October, 1986	Hydrofilter #2858
Disa #2	Molding, pouring, and cooling production line	September, 1972	Hydrofilter #2263 and Baghouse #2269
Hartley Sand Cooler	Cools hot, used greensand before recycling	September, 1989	Hydrofilter #2263
Greensand Shakeout	Molds from Disa #2 are separated from metal castings	September, 1972	Hydrofilter #2263
2 Shell Mold Sand Storage Silos	Sand Silos	January, 1964	Baghouse #2910
3 Raw Sand Silos	Sand Silos	January, 1964	Baghouse #2515
3 Custom Mix (Seacoal and Bentonite Mixture) Silos	Customix Silos	November, 1977	Baghouse/Bin Vent #2891
2 Custom Mix Transporter/Receiver	Customix Transporter/Receiver	November, 1977	Baghouse/Bin Vent #2892
Greensand Return System (Conveyors and Elevator)	Greensand Conveyors and Elevator	April, 1960	Hydrofilter #2850
2 Greensand Muller Feeders	Greensand Feeders	November, 1966	Hydrofilter #2850

Emission Unit	Description	Date Constructed	Emission Control Equipment
Charge Preheater #1110	15 mmBtu/hr Natural Gas Preheater	October, 1970	Baghouse #1540
Charge Preheater #1510	15 mmBtu/hr Natural Gas Preheater	June, 1970	Baghouse #1540
Scrap Dryer #1912	4.32 mmBtu/hr Natural Gas Dryer	April, 1995	Baghouse #1305
Induction Melting Furnace BB-1 #1401	Induction Furnace	May, 1965	None
Induction Melting Furnace BB-2 #1402	Induction Furnace	May, 1965	None
Induction Melting Furnace BB-3 #1503	Induction Furnace	July, 1966	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-4 #1504	Induction Furnace	June, 1968	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-5 #1105	Induction Furnace	January, 1971	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-10 #1701	Induction Furnace	October, 1981	Baghouses #1545, 1546, 1133
Induction Melting Furnace 17B/18B	Induction Furnace	May, 1999	Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-12 #1420	Induction Furnace	December, 1987	None
Induction Melting Furnace "J" #1602	Induction Furnace	February, 1954	None
Induction Melting Furnace BB-15 #1320	Induction Furnace	April, 1995	Baghouse #1305
Wheelabrator Tumbler Equipment #5003	Shot Blast Operation	February, 1982	Baghouse #5305
Wheelabrator Tumbler Equipment #4001	Shot Blast Operation	January, 1959	Baghouse #4009
Wheelabrator Tumbler Equipment #5007	Shot Blast Operation	February, 1982	Baghouse #4308

Emission Unit	Description	Date Constructed	Emission Control Equipment
Wheelabrator Tumbleblast Equipment #6001	Shot Blast Operation	October, 1968	Baghouse #6003
Wheelabrator Tumbleblast Equipment #4401	Shot Blast Operation	January, 1959	Baghouse #4009
Wheelabrator Tumbleblast Equipment #6005	Shot Blast Operation	July, 1995	Baghouse/ Cartridge Filter #2257
Heat Treat Furnace #6202	1.0 mmBtu/hr Heat Treat Furnace	January, 1963	None
Heat Treat Furnace #6203	1.0 mmBtu/hr Heat Treat Furnace	November, 1963	None
Heat Treat Furnace #6204	1.0 mmBtu/hr Heat Treat Furnace	September, 1963	None
Heat Treat Furnace #6205	1.0 mmBtu/hr Heat Treat Furnace	July, 1968	None
Pangborn Table Blast Machine	Shot Blast Operation	August, 1991	Baghouse #4308
7 Stand Grinders	Grinders	April, 1978	Baghouse #4308
4 Bench Grinders	Grinders	March, 1964	Baghouse #4009
Soil Vapor Extractor	Treats soil by extracting organic vapors from the ground with a blower	May, 1998	None
Air Stripper	Treats groundwater by pumping water from the ground into an air stripper	May, 1998	None
Fugitive Emissions	Emissions from Outdoor storage piles	-	None

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 VOM, PM, and HAP emissions.

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 Applicable Regulations

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.

Compliance with this requirement is considered to be assured by the inherent nature of operations at this source, as demonstrated by historical operation.

- 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

None

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)	123.3
Sulfur Dioxide (SO ₂)	13.8
Particulate Matter (PM)	56.7
Nitrogen Oxides (NO _x)	25.7
HAP, not included in VOM or PM	--
TOTAL	219.5

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 General Records for Complaints

- a. A record must be kept of all odor complaints received directly or referred from a responsible government agency. The company shall conduct an investigation and submit a report within 5 working days detailing the complaint, efforts made to identify the odor source, and the conclusions of the investigation.

The report shall also incorporate the following information:

- i. Hourly windspeed and wind direction during the complaint time period.
- ii. Name, address, and telephone number of the person making the complaint (if available).

This Condition was established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

5.6.3 Records for Operating Scenarios

N/A

5.6.4 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 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.

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

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 EMISSIONS REDUCTION MARKET SYSTEM (ERMS)

6.1 Description of ERMS

The ERMS is a "cap and trade" market system for major stationary sources located in the Chicago ozone nonattainment area. It is designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as required by Section 182(c) of the CAA.

The ERMS addresses VOM emissions during a seasonal allotment period from May 1 through September 30. Once the ERMS begins, participating sources must hold "allotment trading units" (ATUs) for their actual seasonal VOM emissions. Each year participating sources are issued ATUs based on allotments set during initial issuance of the sources' CAAPP permits. These allotments are established from historical VOM emissions or "baseline emissions" lowered to provide the emissions reductions from stationary sources required for reasonable further progress.

By December 31 of each year, the end of the reconciliation period following the seasonal allotment period, each source should have sufficient ATUs in its transaction account to cover its actual VOM emissions during the preceding season. A transaction account's balance as of December 31 will include any valid ATU transfer agreements entered into as of December 31 of the given year, provided such agreements are promptly submitted to the Illinois EPA for entry into the transaction account database. The Illinois EPA will then retire ATUs in sources' transaction accounts in amounts equivalent to their seasonal emissions. When a source does not appear to have sufficient ATUs in its transaction account, the Illinois EPA will issue a notice to the source to begin the process for Emissions Excursion Compensation.

In addition to receiving ATUs pursuant to their allotments, participating sources may also obtain ATUs from the market, including ATUs bought from other participating sources and general participants in the ERMS that hold ATUs (35 IAC 205.630) and ATUs issued by the Illinois EPA as a consequence of VOM emissions reductions from an Emissions Reduction Generator or an Intersector Transaction (35 IAC 205.500 and 35 IAC 205.510). During the reconciliation period, sources may also buy ATUs from a secondary reserve of ATUs managed by the Illinois EPA, the "Alternative Compliance Market Account" (ACMA) (35 IAC 205.710). Sources may also transfer or sell the ATUs that they hold to other sources or participants (35 IAC 205.630).

6.2 Applicability

Emissions of VOM from the source during the seasonal allotment period from May 1 through September 30 of each year shall not

exceed 15 tons, not including VOM emissions from insignificant emission units and activities as identified in Section 3 of this permit. This limitation is established at the request of the source to exempt it from the requirements of 35 IAC Part 205, Emissions Reduction Market System (ERMS), pursuant to 35 IAC 205.205.

6.3 Recordkeeping and Reporting

- a. The Permittee shall maintain the following records to determine compliance with the above limitation:
 - i. Records of operating data and other information for each individual emission unit or group of related emission units at the source, as specified in Sections 5 and 7 of this permit, as appropriate, to determine actual VOM emissions during the seasonal allotment period;
 - ii. Records of the VOM emissions, in tons, during the seasonal allotment period, with supporting calculations, for each individual emission unit or group of related emission units at the source, determined in accordance with the procedures specified in Sections 5 and 7 of this permit; and
 - iii. Total VOM emissions from the source, in tons, during each seasonal allotment period.
- b. The Permittee shall submit the seasonal emissions component of the Annual Emissions Report by November 30 of each year, reporting actual emissions of VOM during the seasonal allotment period, in accordance with 35 IAC 205.205(b) and 35 IAC 205.300.
- c. In the event that the source's VOM emissions during the seasonal allotment period exceed 15 tons, the source shall no longer be exempt from the ERMS and beginning with the following seasonal allotment period, shall comply with 35 IAC Part 205, by holding allotment trading units (ATUs) for its VOM emissions during each seasonal allotment period.

6.4 Federal Enforceability

Section 6.0 becomes federally enforceable upon approval of the ERMS by USEPA as part of Illinois' State Implementation Plan.

7.0 UNIT SPECIFIC CONDITIONS

7.1 Shell Mold Process

7.1.1 Description

In this process, shell sand, pre-coated with a VOM containing resin, is formed into a mold in one of the 15 Hutchinson shell molding machines. In these machines, the mold is heated to 400°F using natural gas fired burners rated at 120 MBtu/hr so that the resin hardens. NOx, CO, VOM, PM, and HAPs are emitted from the shell molding machines. Emissions of PM from the shell molding machines are controlled by two baghouses.

The shell molds then move to the shell conveyor line. In this process, molten iron is poured into the shell molds. The iron containing shell molds travel through the shell cooling tunnel and then to the shell shakeout area. VOM, PM, and HAPs are emitted from the shell conveyor line. Emissions of PM from the iron pouring and cooling processes are each controlled baghouses. Emissions of PM from the shell shakeout area are controlled by a hydrofilter.

7.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
15 Hutchinson Shell Molding Machines	Resin coated sand is formed into a mold. The molds are hardened by natural gas fired burners rated at 120 MBtu/hr	Baghouse #2604 and Baghouse #2780
Shell Conveyor	Iron pouring, cooling and shell shakeout	Baghouse #2512, Baghouse #2515, and Hydrofilter #2858

7.1.3 Applicability Provisions and Applicable Regulations

- a. i. An "affected shell molding machine" for the purpose of these unit-specific conditions, is a shell molding machine described in Conditions 7.1.1 and 7.1.2.
- ii. The "affected shell conveyor" for the purposes of these unit-specific conditions, is the shell conveyor described in Conditions 7.1.1 and 7.1.2.

- b. Each affected shell molding machine and the affected shell conveyor is subject to the emission limits identified in Condition 5.2.2.
- c. The affected shell molding machines constructed on or after April 14, 1972 are subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, 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 subsection (b) or (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

- d. The affected shell conveyor and the affected shell molding machines constructed prior to April 14, 1972 are subject to 35 IAC 212.322, which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218.301 shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to history of odor complaints from this source, this Condition applies to any material meeting the definition of organic material in 35 IAC 211.4250.

7.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected shell molding machines and the affected shell conveyor not being subject to 35 IAC 218 Subpart TT, because iron and steel production is specifically exempted from the requirements of this Subpart by 35 IAC 218.980(f).

7.1.5 Operational and Production Limits and Work Practices

- a. Natural gas shall be the only fuel used in the affected shell molding machines.
- b. Emissions shall be vented to the associated pollution control equipment at all times when the affected shell molding machines and the affected shell conveyor are in operation.
- c.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses and the hydrofilter, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected shell molding machines and the affected shell conveyor are subject to the following:

- a. Emissions and operations of the affected shell molding machines shall not exceed the following limits:

Shell Sand		PM Emissions		VOM Emissions	
Throughput					
<u>(ton/hr)</u>	<u>(ton/Yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
10.76	77,470	0.05	0.18	7.9	19.0

The emission limits are based on the maximum shell sand throughput and the emission calculation procedure described in Condition 7.1.12(b).

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) [T1].

The above limitations were established in Permit 90110047, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

- b. Emissions and operations of the affected shell conveyor shall not exceed the following limits:

OPERATIONS:

<u>Equipment</u>	<u>Shell Molds Throughput</u>		<u>Metal Throughput</u>	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
Pouring	7.14	51,410	5.07	36,510
Cooling Tunnel	7.14	51,410	5.07	36,510
Shakeout Chamber	7.14	51,410	5.07	36,510

EMISSIONS:

<u>Equipment</u>	<u>PM Emissions</u>		<u>VOM Emissions</u>	
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
Pouring/ Cooling Tunnel/ Shakeout Chamber	1.50	5.40	7.9	28.4

The emission limits are based on the maximum metal throughput and the emission calculation procedure described in Condition 7.1.12(b).

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) [T1].

The above limitations were established in Permit 90110050, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.1.7 Testing Requirements

None

7.1.8 Monitoring Requirements

None

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 affected shell molding machines and the affected shell conveyor 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. The Permittee shall maintain records of the following items for the affected shell molding machines to demonstrate compliance with Condition 7.1.3(c), (d), and (e), and Condition 7.1.6(a):

- i. Shell sand throughput (ton/mo and ton/yr).
- ii. Operating hours (hr/mo and hr/yr).
- iii. Natural gas usage (mmscf/yr).
- iv. Emissions of VOM and PM from each shell molding machine and all shell molding machines combined as calculated by the procedure described in Condition 7.1.12(b) (lb/hr and ton/yr).

b. The Permittee shall maintain records of the following items for the affected shell conveyor to demonstrate compliance with Condition 7.1.3(c), (d), and (e), and Condition 7.1.6(b):

- i. Shell mold throughput (ton/mo and ton/yr).
- ii. Metal throughput (ton/mo and ton/yr).
- iii. Operating hours (hr/mo and hr/yr).

- iv. Emissions of VOM and PM from pouring, the cooling tunnel, and the shakeout chamber and from the entire shell conveyor as calculated by the procedure described in Condition 7.1.12(b) (lb/hr and Ton/yr).
- c. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:
 - i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
- d. The Permittee shall maintain a record of a measurement of the pressure drop across the hydrofilter as recorded once per shift (mmHg). This requirement was established in Permit 90110050.
- e. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected shell molding machine or the affected shell conveyor 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Shell sand operations - Phase II
 - ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.1.3, 7.1.5, or 7.1.6, if any, which required notification to the Compliance Section in accordance with Condition 7.1.10(b).
 - ii. The annual emissions of PM and VOM from the affected shell molding machines and the affected shell conveyor for each month of the previous calendar year, to demonstrate compliance with Condition 7.1.6, 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).

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected shell molding machines or the affected shell conveyor 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:

None

7.1.12 Compliance Procedures

- a. Compliance with Condition 7.1.3(e) is demonstrated by the use of natural gas as the combustion fuel.
- b. Compliance with Conditions 5.5.1, 7.1.3(c), 7.1.3(d), 7.1.3(f), and 7.1.6 shall be based on the recordkeeping requirements in Condition 7.1.9(a) and the emission factors and formulas listed in below:
 - i. Emissions from the affected shell molding machines shall be determined by the following procedure:
 - A. 1. Emission factors for the affected shell molding machines:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/ton shell sand throughput)</u>
VOM	0.2787
PM	0.005*

*This emission factor may be used only if the shell molding machines are vented to the associated baghouse.

The emission factors for VOM and PM are base on results from stack tests performed on April, 1986 and June 1988. Emissions of PM are based on 99.8% control efficiency of the baghouse.

2. Emissions from the affected shell molding machines:

Appropriate Emissions (ton) = Shell Sand Throughput (ton) * The Appropriate Emission Factor (lb/ton) ÷ 2000 lb/ton

- B. 1. Emission factors resulting from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor (lb/mmscf)</u>
PM	7.6
NO _x	100.0
SO ₂	0.6
VOM	5.5
CO	84.0

These are emission factors using AP-42 emission factors for natural gas combustion.

2. Emissions from combustion of natural gas:

Appropriate Emissions (ton) = Natural Gas Consumed (scf) x The Appropriate Emission Factor (lb/mmscf) ÷ 1,000,000 (scf/mmscf) ÷ 2,000 (lb/ton)

- ii. Emissions from the affected shell conveyor shall be determined by the following procedure:

- A. Emission factors for each of the components of the affected shell conveyors:

<u>Equipment</u>	<u>Emission Factor</u>	
	<u>PM (lb/ton of shell mold)</u>	<u>VOM (lb/ton of shell mold)</u>
Pouring	0.006*	0.404
Cooling Tunnel	0.006*	0.0464
Shakeout Chamber	0.0045**	0.366**

*The PM emission factors for pouring and cooling tunnel may be used only if this

equipment is vented to the associated baghouse.

**The PM and VOM emission factors for the shakeout chamber may only be used if this equipment is vented to the hydrofilter.

Emission factors for PM are based on AP-42 emission factors for Gray Iron Foundries, Chapter 12.10 and 99.8% efficiency of control equipment.

Emission factors for VOM are based on emission studies performed by the American Foundrymen's Society and on material balance methods. The VOM emission factor from the shakeout chamber is based on 20% control efficiency from the hydrofilter.

- B. Emissions from the affected shell conveyors:

Appropriate Emissions (ton) = Shell Mold
Throughput (ton) * The Appropriate
Emission Factor (lb/ton) ÷ 2000
lb/ton

7.2 Stack Molding Operations

7.2.1 Description

Stack molding is used to make large quantities of small, button shaped castings. The rough casting resembles a tree with buttons attached at the ends of the branches. The molds are a series of stacked mold plates that are made from pre-coated, low odor shell sand and heat cured to form a rigid mold. The top and bottom plates are made one at a time on the mini stack molding machines and the middle plates are made two at a time on the twin stack molding machines. Emissions from both types of molding machines (six total) are collected by a baghouse.

The shell sand is stored in a silo before being transported to the stack molding machines. The PM emissions from handling and storing the sand are captured by a baghouse.

Finished stacks are conveyed by trolley to one of two pouring stations. Upon pouring, the molds ignite and are pushed into the cooling and shakeout chamber. Molds are allowed to cool and are subsequently shaken out and the castings separated from the scraps. Emissions from these chambers are captured by a baghouse.

During the manufacture of stack molds, small amounts of the low odor, resin coated sand which is scraped off of the sides of the molds is collected in catch boxes. This sand consists of re-usable sand and some fused sand. This mixture is put through the vibrating screen to recover the usable sand. Emissions from the vibrating screen is controlled a baghouse.

7.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Shell sand storage silo	Storage of resin coated shell sand	Baghouse #1540
3 twin stack molding machines	Stack molds are formed and hardened	Baghouse #2512
3 mini stack molding machines	Stack molds are formed and hardened	Baghouse #2512
2 pouring/cooling/shakeout chambers	Iron pouring, cooling and stack mold shakeout	Baghouse #2512
Vibrating screen sand separator	Recovery of reusable sand from the stack molding machines	Baghouse #2269

7.2.3 Applicability Provisions and Applicable Regulations

- a. The "affected stack molding operations" for the purposes of these unit-specific conditions, are the units described in Conditions 7.2.1 and 7.2.2
- b. The affected stack molding operations are subject to the emission limits identified in Condition 5.2.2.
- c. Each affected stack molding operation constructed on or after April 14, 1972 is subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, 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 subsection (b) or (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

- d. Each affected stack molding operation constructed prior to April 14, 1972 are subject to 35 IAC 212.322, which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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 the following exception: If no odor nuisance exists the limitation of this Condition shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to a history of odor complaints from this source, this Condition applies to any material

meeting the definition of organic material in 35 IAC 211.4250.

7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected stack molding operations not being subject to 35 IAC 218 Subpart TT, because iron and steel production is specifically exempted from the requirements of this Subpart by 35 IAC 218.980(f).

7.2.5 Operational and Production Limits and Work Practices

- a. Emissions shall be vented to the associated pollution control equipment at all times when the affected stack molding operation is in operation.
- b.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected stack molding operations are subject to the following:

Emissions and operations of the affected stack molding operations shall not exceed the following limits:

OPERATIONS:

<u>Equipment</u>	<u>Sand Throughput</u>		<u>Metal Throughput</u>	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
Storage Silo	25	218,400	----	----
3 Mini Stack Machines	0.06	440	----	----
3 Twin Stack Machines	0.34	2,470	----	----
2 Pouring, Cooling and Shakeout Chambers	2.48	17,860	3.0	21,600

EMISSIONS:

<u>Equipment</u>	<u>PM Emissions</u>		<u>VOM Emissions</u>	
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>

Storage Silo/3 Mini Stack Machines/3 Twin Stack Machines/2 Pouring, Cooling and Shakeout Chambers	2.00	7.58	7.9	28.4
---	------	------	-----	------

The emission limits are based on the maximum metal throughput and the emission calculation procedure described in Condition 7.2.12(a).

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) [T1].

The above limitations were established in Permit 90110051, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and 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 the affected stack molding operations to demonstrate compliance with Conditions 5.5.1, 7.2.3, 7.2.5, and 7.2.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items for the affected stack molding operation to demonstrate compliance with Condition 7.2.3(c), (d), and (e), and Condition 7.2.6:
 - i. Sand throughput (ton/mo and ton/yr).
 - ii. Metal throughput (ton/mo and ton/yr).
 - iii. Operating hours (hr/mo and hr/yr).

- iv. Emissions of VOM and PM from each affected stack molding operation and from all affected stack molding operations combined as calculated by the procedure described in Condition 7.2.12(a) (lb/hr and ton/yr).
- b. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:
 - i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected stack molding operations 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:

- i. Shell sand operations - Phase II
- ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.2.3, 7.2.5, or 7.2.6, if any, which required notification to the Compliance Section in accordance with Condition 7.2.10(b).
 - ii. The annual emissions of PM and VOM from the affected stack molding operations for each month of the previous calendar year, to demonstrate compliance with Condition 7.2.6, 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).

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected stack

molding operations 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:

None

7.2.12 Compliance Procedures

a. Compliance with Conditions 5.5.1, 7.2.3(c), 7.2.3(d), 7.2.3(e), and 7.2.6 shall be based on the recordkeeping requirements in Condition 7.2.9(a) and the emission factors and formulas listed below:

i. Emission factors for the affected stack molding operations:

<u>Equipment</u>	<u>Emission Factor</u>	
	<u>PM</u> <u>(lb/ton of UNIT)</u>	<u>VOM</u> <u>(lb/ton of UNIT)</u>
Storage Silo	0.007 (sand)*	-----
Mini Stack Machines	0.007 (sand)*	3.2 (sand)
Twin Stack Machines	0.007 (sand)*	3.2 (sand)
Pouring, Cooling and Shakeout Chambers	0.019 (iron)*	2.6 (iron)

*The PM emission factors may be used only if this equipment is vented to the associated baghouse.

Emission factors for PM are based on AP-42 emission factors for Gray Iron Foundries, Chapter 12.10 and 99.8% efficiency of control equipment.

Emission factors for VOM are based on emission studies performed by the American Foundrymen's Society and on material balance methods.

ii. Emissions formula from the affected stack molding operations:

$$\text{Appropriate Emissions (ton)} = \text{Appropriate Throughput (ton)} * \text{The Appropriate Emission Factor (lb/ton)} \div 2000 \text{ lb/ton}$$

- b. Compliance with Condition 7.2.3(c) (35 IAC 212.321) is assured for the vibrating screen sand separator as long as it is vented to the baghouse and it meets the requirements of Condition 7.2.5.

7.3 Core Making Operations

7.3.1 Description

Casting cores are made by one of two processes: the shell core process or the Iso-cure core process. There are 14 individual shell core molding machines, only eight can operate at any time. The other machines will be down for maintenance or pattern changer operations. Shell core machines use a low odor resin coated sand which is purchased pre-coated. The sand is pneumatically fed into the heated mold and allowed to cure forming a shell core.

The Iso-cure core making process takes place at room temperature and does not rely on heat to cure. The resin consists of two parts and is mixed with the sand in mullers at the plant. The sand is pneumatically delivered to the mold where it is exposed to catalyst gas. The catalyst gas is triethylamine (TEA). Exposure to the catalyst causes the Iso-cure cores to cure. Iso-cure production is divided between two types of machines: the Disa-Matic Combi-Core machine and six older Iso-cure machines. TEA Emissions are controlled by a Gaylord amine scrubber.

7.3.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
14 Shell Core Making Machines	Cores are molded and heat cured	None
6 Iso-cure Core Making Machines	Cores are molded and cured with TEA	Gaylord Amine Scrubber #3328 with Cyclone
Disa Technologies, Combi-Core Iso-Cure Core Machine	Cores are molded and cured with TEA	Gaylord Amine Scrubber #3328 with Cyclone

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected core making operations" for the purposes of these unit-specific conditions, are the units described in Conditions 7.3.1 and 7.3.2
- b. The affected core making operations are subject to the emission limits identified in Condition 5.2.2.
- c. Each affected core making operation constructed on or after April 14, 1972 is subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, 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 subsection (b) or (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

- d. Each affected core making operation constructed prior to April 14, 1972 are subject to 35 IAC 212.322, which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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 the following exception: If no odor nuisance exists the limitation of this Condition shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to a history of odor complaints from this source, this Condition applies to any material meeting the definition of organic material in 35 IAC 211.4250.

7.3.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected core making operations not being subject to 35 IAC 218 Subpart TT, because iron and steel production is specifically exempted from the requirements of this Subpart by 35 IAC 218.980(f).

7.3.5 Operational and Production Limits and Work Practices

- a. Emissions shall be vented to the associated pollution control equipment at all times when the affected core making operation is in operation.
- b. The Permittee shall follow good operating practices and procedures for the scrubbers, including periodic inspections, routine maintenance, and prompt repair of malfunctions.

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected core making operations are subject to the following:

- a. Emissions and operations of equipment shall not exceed the following limits:

OPERATIONS:

<u>Equipment</u>	<u>Sand Throughput (ton/hr)</u>	<u>(ton/yr)</u>
Core making machines	1,100	2,750
Iso-cure core making machines	300	750

EMISSIONS:

<u>Equipment</u>	<u>PM Emissions (lb/hr)</u>	<u>(ton/yr)</u>	<u>VOM Emissions (lb/hr)</u>	<u>(ton/yr)</u>
Core making machines/ Iso-cure core making machines	2.00	5.00	7.9	19.75

The emission limits are based on the maximum sand throughput and the emission calculation procedure described in Condition 7.3.12(a).

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) [T1].

The above limitations were established in Permit 90110048, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

- b. Emissions and operations of equipment shall not exceed the following limits:

<u>Equipment</u>	<u>TEA Throughput (lb/hr)</u>	<u>Core Mix Throughput (lb/hr)</u>	<u>Operating Hours (hr/yr)</u>	<u>VOM Emissions (lb/hr) (ton/yr)</u>	
Disa Combi-Core	5.45	1820	5000	2.05	5.12

The emission limits are based on the maximum material throughput, hours of operation, and the emission calculation procedure described in Condition 7.3.12(a).

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) [T1].

The above limitations were established in Permit 93060001, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

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 core making operations to demonstrate compliance with Conditions 5.5.1, 7.3.3, 7.3.5, and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items for the affected core making operations to demonstrate compliance with Condition 7.3.3(c), (d), and (e), and Condition 7.3.6:
 - i. Sand throughput through the core making machines, the Iso-cure core making machines, and the Disa Combi-Core machine (ton/mo and ton/yr).
 - ii. Triethylamine (TEA) usage in the Iso-cure core making machines and the Disa Combi-Core machine (ton/mo and ton/yr).
 - iii. Operating hours (hr/mo and hr/yr).
 - iv. Emissions of VOM and PM from each affected core making operation and from all affected core making operations combined as calculated by the procedure described in Condition 7.3.12(a) (lb/hr and ton/yr).

- b. The Permittee shall maintain an operating and maintenance log for the scrubber, including:
 - i. Incidents of malfunction, with duration, probable cause, and corrective actions taken.
 - ii. Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

The above requirements were established in Permit 90110048.

- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected core making operation 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Shell sand operations - Phase II
 - ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.3.3, 7.3.5, or 7.3.6, if any, which required notification to the Compliance Section in accordance with Condition 7.3.10(b).

- ii. The annual emissions of PM and VOM from the affected core making operations for each month of the previous calendar year, to demonstrate compliance with Condition 7.3.6, 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).

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected core making operations 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:

None

7.3.12 Compliance Procedures

- a. Compliance with Conditions 5.5.1, 7.3.3(c), 7.3.3(d), 7.3.3(e), and 7.3.6 shall be based on the recordkeeping requirements in Condition 7.3.9(a) and the emission factors and formulas listed below:
 - i. Emission factors for the affected core making operations:

<u>Equipment</u>	<u>Emission Factor</u>	
	<u>PM</u> <u>(lb/ton of sand)</u>	<u>VOM</u> <u>(lb/ton of sand)</u>
Core making machines	0.005	3.2
Iso-cure core making machines	0.005	2.28*
Disa Combi-Core machine	-----	2.28*

*The VOM emission factors for the Iso-cure core making machine and the Disa Combi-Core machine may be used only if this equipment is vented to the scrubber.

The emission factors are based on information from a stack test performed August 18, 1994 on core making processes.

- ii. Emissions formula from the affected core making operations:

Appropriate Emissions (ton) = Shell Sand
Throughput (ton) * The Appropriate
Emission Factor (lb/ton) ÷ 2000 lb/ton

7.4 Greensand Molding, Pouring, Cooling, and Shakeout Processes

7.4.1 Description

Greensand molding, pouring, cooling, and shakeout occurs in one of four production lines: Hunter No. 10, Hunter No. 20, Disa No. 1 or Disa No. 2.

Prepared greensand is fed to the Hunter lines and greensand molds are made by pressing the sand against a pattern. The molds are then transported to the pouring station which is adjacent to the cooling carousel. As molten iron is poured into the mold, air is drawn across the top of the mold capturing any emissions from pouring. When the mold has been filled with iron, it is moved to the cooling carousel. After the mold has cooled sufficiently, the mold and casting are sent to shakeout (shared by Hunter No. 10 and No. 20) to separate the sand from the casting. Emissions from the pouring and cooling operations on both Hunter lines are sent to Hydrofilter #2858.

Prepared greensand is sent to Disa #1 where the molds are made much the same as the Hunter molds. The mold then is conveyed to the pouring area and after being poured is sent to the cooling chamber. After sufficient cooling, the mold is sent to the lump breaker and the mold sand is separated from the casting. Emissions from Disa #1 are sent to Hydrofilter #2862.

Disa #2 operates the same as Disa #1 except it sends the hot, used greensand to the Hartley sand cooler before the sand is sent to Central Greensand for recycling. Emissions from both Disa #2 and the Hartley sand cooler are sent to Hydrofilter #2263.

7.4.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Hunter No. 10	Molding, pouring, and cooling production line	Hydrofilter #2862
Hunter No. 20	Molding, pouring, and cooling production line	Hydrofilter #2862
Disa #1	Molding, pouring, cooling, and mold breakup production line	Hydrofilter #2862
Greensand Shakeout	Molds from Hunter No. 10 and Hunter No. 20 are separated from metal castings	Hydrofilter #2858

Emission Unit	Description	Emission Control Equipment
Disa #2	Molding, pouring, and cooling production line	Hydrofilter #2263 and Baghouse #2269
Hartley Sand Cooler	Cools hot, used greensand before recycling	Hydrofilter #2263
Greensand Shakeout	Molds from Disa #2 are separated from metal castings	Hydrofilter #2263 and Baghouse #2269

7.4.3 Applicability Provisions and Applicable Regulations

- a. The "affected greensand operations" for the purposes of these unit-specific conditions, are the units described in Conditions 7.4.1 and 7.4.2
- b. The affected greensand operations are subject to the emission limits identified in Condition 5.2.2.
- c. Each affected greensand operation constructed on or after April 14, 1972 is subject to 35 IAC 212.321, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, 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 subsection (b) or (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

- d. Each affected greensand operation constructed prior to April 14, 1972 is subject to 35 IAC 212.322, which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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 the following exception: If no odor nuisance exists the limitation of this Condition shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to a history of odor complaints from this source, this Condition applies to any material meeting the definition of organic material in 35 IAC 211.4250.

7.4.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected greensand operations not being subject to 35 IAC 218 Subpart TT, because iron and steel production is specifically exempted from the requirements of this Subpart by 35 IAC 218.980(f).

7.4.5 Operational and Production Limits and Work Practices

- a. Emissions shall be vented to the associated pollution control equipment at all times when the affected greensand operations are in operation.
- b. The Permittee shall follow good operating practices and procedures for the hydrofilters, including periodic inspections, routine maintenance, and prompt repair of malfunctions.
- c.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.4.6 Emission Limitations

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

- a. Emissions and operations of the No. 10 and No. 20 Hunter Lines shall not exceed the following limits:

i. No. 10 Hunter Line:

OPERATIONS:

<u>Equipment</u>	Greensand Throughput		Metal Throughput	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
Molding Machine	11.2	44,800	----	----
Pouring Station	11.2	44,800	2.5	10,000
Cooling Carrousel	11.2	44,800	2.5	10,000
Mold Breaker	11.2	44,800	2.5	10,000

EMISSIONS:

<u>Equipment</u>	PM Emissions		VOM Emissions	
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
Molding Machine/ Pouring Station/ Cooling Carrousel/ Mold Breaker	6.10	12.20	7.9	15.8

ii. No. 20 Hunter Line:

OPERATIONS:

<u>Equipment</u>	Greensand Throughput		Metal Throughput	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
Molding Machine	20.0	96,000	----	----
Pouring Station	20.0	96,000	3.5	12,000
Cooling Carrousel	20.0	96,000	3.5	12,000
Mold Breaker	20.0	96,000	3.5	12,000

EMISSIONS:

<u>Equipment</u>	PM Emissions		VOM Emissions	
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
Molding Machine/ Pouring Station/ Cooling Carrousel/ Mold Breaker	10.10	24.24	7.9	15.8

The emission limits are based on the maximum greensand and metal throughput and the emission calculation procedure described in Condition 7.4.12(a).

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) [T1].

The above limitations were established in Permit 90110044, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

- b. Emissions and operations of the No. 1 Disamatic Line shall not exceed the following limits:

OPERATIONS:

<u>Equipment</u>	<u>Greensand Throughput</u>		<u>Metal Throughput</u>	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
Molding Machine	26.4	158,400	----	----
Pouring Station	26.4	158,400	9	54,000
Mold Cooler and Breaker	26.4	158,400	9	54,000

EMISSIONS:

<u>Equipment</u>	<u>PM Emissions</u>		<u>VOM Emissions</u>	
	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
Molding Machine/ Pouring Station/ Mold Cooler and Breaker	14.70	44.10	7.9	23.7

The emission limits are based on the maximum greensand and metal throughput and the emission calculation procedure described in Condition 7.4.12(a).

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) [T1].

The above limitations were established in Permit 90110046, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

- c. Emissions and operations of the No. 2 Disamatic Line shall not exceed the following limits:

<u>Metal Throughput</u>		<u>PM Emissions</u>		<u>VOM Emissions</u>	
<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>	<u>(lb/hr)</u>	<u>(ton/yr)</u>
8.0	35,400	3.29	7.26	8.72	19.29

The emission limits are based on the maximum metal throughput and the emissions calculation procedure described in Condition 7.4.12(a).

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) [T1].

This permit is issued based on a contemporaneous and creditable decrease in VOM emissions from the shutdown of the old Disa #2 Line at the plant so that the replacement Disa #2 does not represent a significant net increase in emissions of VOM.

The above limitations were established in Permit 90110045, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and 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

- a. The Permittee shall maintain and operate a system for monitoring pressure drop across each stage of the hydrofilters.

This Condition was established in Permit 90110044 and 90110046.

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 greensand operations to demonstrate compliance with Conditions 5.5.1, 7.4.3, 7.4.5, and 7.4.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items for each affected greensand operation to demonstrate compliance with Condition 7.4.3(c), (d), and (e), and Condition 7.4.6:
 - i. Greensand throughput (ton/mo and ton/yr).
 - ii. Metal throughput (ton/mo and ton/yr).
 - iii. Operating hours (hr/mo and hr/yr).
 - iv. Emissions of VOM and PM from each affected greensand operation and from all affected greensand operations combined as calculated by the procedure described in Condition 7.4.12(a) (lb/hr and ton/yr).
- b. The Permittee shall maintain an operating and maintenance log for the hydrofilters, including:
 - i. Incidents of malfunction, with duration, probable cause, and corrective actions taken.
 - ii. Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

The above requirements were established in Permit 90110044 and 90110046.

- c. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:

- i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired
- d. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.4.3, 7.4.5, or 7.4.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected greensand operations 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Greensand operations - Phase II
 - ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions

7.4.3, 7.4.5, or 7.4.6. The notification shall include:

- i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
- i. A summary of exceedances of the limits in Conditions 7.4.3, 7.4.5, or 7.4.6, if any, which required notification to the Compliance Section in accordance with Condition 7.4.10(b).
 - ii. The annual emissions of PM and VOM from the affected greensand operations for each month of the previous calendar year, to demonstrate compliance with Condition 7.4.6, 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).

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected greensand operations 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:

None

7.4.12 Compliance Procedures

a. Compliance with Conditions 5.5.1, 7.4.3(c), 7.4.3(d), 7.4.3(e), and 7.4.6 shall be based on the recordkeeping requirements in Condition 7.4.9(a) and the emission factors and formulas listed below:

i. Emission factors for the affected greensand operations:

<u>Equipment</u>	<u>Emission Factor</u>	
	<u>PM</u> (lb/ton of greensand)	<u>VOM</u> (lb/ton of greensand)
Hunter No. 10 molding, pouring, and cooling	0.0013*	0.02
Hunter No. 20 molding, pouring, and cooling	0.0013*	0.02
Disa #1 molding, Pour/Cool/Shakeout	0.172*	0.218
Hunter No. 10, and Hunter No. 20 Greensand Shakeout	0.0014*	0.09
Disa #2 Line Pour/Cool/Shakeout	0.172*	0.218
Hartley Sand Cooler	0.003*	----

*The PM emission factors may be used only if this equipment is vented to the associated hydrofilter and/or baghouse.

These emission factors are based on information from the 1991 test of emissions from greensand activities and from AP-42 emission factors for Gray Iron Foundries.

ii. Emissions from the affected greensand operations:

Appropriate Emissions (ton) = Amount of Greensand Throughput (ton) * The Appropriate Emission Factor (lb/ton) ÷ 2000 lb/ton

7.5 Sand Receiving, Storage, and Transporting Operations

7.5.1 Description

Sand receiving, storage, and transporting operations consist of 6 process emission units that participate in 2 separate processes, the greensand process (5 process emission units) and the shell sand storage process (1 process emission unit).

The greensand process is responsible for making useable greensand using virgin and recycled materials such as sand, water, and customix (seacoal and bentonite clay).

The shell sand storage process stores the pre-resin coated low odor shell sand prior to use in making shell molds.

7.5.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
2 Shell Mold Sand Storage Silos	Sand Silos	Baghouse #2910
3 Raw Sand Silos	Sand Silos	Baghouse #2515
3 Custom Mix (Seacoal and Bentonite Mixture) Silos	Customix Silos	Baghouse/Bin Vent #2891
2 Custom Mix Transporter/Receiver	Customix Transporter/Receiver	Baghouse/Bin Vent #2892
Greensand Return System (Conveyors and Elevator)	Greensand Conveyors and Elevator	Hydrofilter #2850
2 Greensand Muller Feeders	Greensand Feeders	Hydrofilter #2850

7.5.3 Applicability Provisions and Applicable Regulations

- a. An "affected receiving/storage/transporting operation" for the purpose of these unit-specific conditions, is a unit described in Conditions 7.5.1 and 7.5.2.
- b. The affected receiving/storage/transporting operations are subject to the emission limits identified in Condition 5.2.2.
- c. The affected receiving/storage/transporting operations are subject to 35 IAC 212.322(a), which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

7.5.4 Non-Applicability of Regulations of Concern

None

7.5.5 Operational and Production Limits and Work Practices

- a. Emissions shall be vented to the associated pollution control equipment at all times when the affected receiving/storage/transporting operations are in operation.
- b.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.5.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected receiving/storage/ transporting operations are subject to the following:

Emissions and operation from the affected receiving/storage/transporting operations shall not exceed the following limits:

<u>Equipment</u>	<u>Material Throughput</u>		<u>PM Emissions</u>	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
3 Raw Sand Silos (each)	25	218,400	0.50	2.18
3 Custom Mix Silos (each)	25	218,400	0.50	2.18

2 Custom Mix Transporters (each)	0.44	3,190	0.50	2.18
Central Sand Separator	31.2	224,640	0.50	2.18
Central Sand Transport and Storage	60.6	436,320	1.50	5.40
2 Mulling and Distribution (each)	27.08	194,940	0.50	2.18
2 Shell Mold Sand Storage Silos	25	218,400	0.50	2.18

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) [T1].

The above limitations were established in Permits 90110043, 90110047, and 92090049, pursuant to 35 IAC Part 203 and 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 35 IAC Part 203 and the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

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 receiving/storage/transporting operations to demonstrate compliance with Conditions 5.5.1, 7.5.3, 7.5.5, and 7.5.6, pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall maintain records of the following items to demonstrate compliance with Conditions 7.5.3(c) and 7.5.6:

i. Material purchased/handled (ton/mo and ton/yr).

- ii. Operating hours (hr/mo and hr/yr).
 - iii. Emissions of PM from each affected receiving/storage/transporting operations and all affected receiving/storage/transporting operations combined as calculated by the procedure described in Condition 7.5.12(a) (lb/hr and Ton/yr).
- b. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:
- i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6, which shall include:
- i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected receiving/storage/transporting operation 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Greensand operations - Phase II
 - ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.5.3, 7.5.5, or 7.5.6, if any, which required notification to the Compliance Section in accordance with Condition 7.5.10(b).
 - ii. The annual emissions of PM from the affected receiving/storage/transporting operations for each month of the previous calendar year, to demonstrate compliance with Condition 7.5.6, 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).

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected receiving/storage/transporting operation 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:

None

7.5.12 Compliance Procedures

a. Compliance with Conditions 5.5.1, 7.5.3(c), and 7.5.6 shall be based on the recordkeeping requirements in Condition 7.5.9(a) and the emission factors and formulas listed below:

i. Emission factors for the affected receiving/storage/transporting operations:

<u>Pollutant</u>	<u>Emission Factor (lb/ton handled)</u>
PM	3

These are emission factors determined for the affected receiving/storage/transporting operations using AP-42 emission factors.

ii. Emissions from the affected receiving/storage/transporting operations:

Appropriate Emissions (ton) = Amount of Material Purchased/Handled (ton) * The Appropriate Emission Factor (lb/ton) * 99% Control Equipment's Control Efficiency ÷ 2000 lb/ton

7.6 Iron Melting Operations

7.6.1 Description

Two charge pre-heaters and a scrap drying oven are used to dry and pre-heat the steel and iron prior to being charged to the induction furnaces. Emissions consist of particulate matter and products of natural gas combustion.

7.6.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Charge Preheater #1110	15 mmBtu/hr Natural Gas Preheater	Baghouse #1540
Charge Preheater #1510	15 mmBtu/hr Natural Gas Preheater	Baghouse #1540
Scrap Dryer #1912	4.32 mmBtu/hr Natural Gas Dryer	Baghouse #1305
Induction Melting Furnace BB-1 #1401	Induction Furnace	None
Induction Melting Furnace BB-2 #1402	Induction Furnace	None
Induction Melting Furnace BB-3 #1503	Induction Furnace	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-4 #1504	Induction Furnace	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-5 #1105	Induction Furnace	2 Precleaning Cyclones and Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-10 #1701	Induction Furnace	Baghouses #1545, 1546, 1133
Induction Melting Furnace 17B/18B	Induction Furnaces	Baghouses #1545, 1546, 1133
Induction Melting Furnace BB-12 #1420	Induction Furnace	None
Induction Melting Furnace "J" #1602	Induction Furnace	None
Induction Melting Furnace BB-15 #1320	Induction Furnace	Baghouse #1305

7.6.3 Applicability Provisions and Applicable Regulations

- a. An "affected iron melting operation" for the purpose of these unit-specific conditions, is a unit described in Conditions 7.6.1 and 7.6.2.
- b. The affected iron melting operations are subject to the emission limits identified in Condition 5.2.2.
- c. Equipment #1912, 1702, 1420, 1320, and furnace 17B/18B are subject to 35 IAC 212.321(a), which provides that:

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 (see also Attachment 1) [35 IAC 212.321(a)].

- d. Equipment #1110, 1510, 1401, 1402, 1503, 1504, 1105, and 1602 are subject to 35 IAC 212.322(a), which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218.301 shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to history of odor complaints from this source, this Condition applies to any material meeting the definition of organic material in 35 IAC 211.4250.

7.6.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected iron melting operations not being subject to 35 IAC 218 Subpart TT, because iron and steel production is specifically exempted from the requirements of this Subpart by 35 IAC 218.980(f).

7.6.5 Operational and Production Limits and Work Practices

- a. Natural gas shall be the only fuel used in the affected iron melting operations.
- b. The scrap dryer #1912 shall not process scrap material containing grease or oil.
- c. Emissions shall be vented to the associated pollution control equipment at all times when the affected iron melting operations are in operation.
- d.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

7.6.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected iron melting operations are subject to the following:

Emissions and operation from the affected iron melting operations shall not exceed the following limits:

<u>Equipment</u>	<u>Firing Rate</u> (mmBtu/hr)	<u>NO_x Emissions</u> (lb/hr) (ton/yr)	
Scrap Dryer #1912	4.32	0.43	1.88

<u>Equipment</u>	<u>Charge Rate</u>		<u>PM Emissions</u>	
	<u>(ton/hr)</u>	<u>(ton/yr)</u>	<u>(ton/hr)</u>	<u>(ton/yr)</u>
2 Charge				
Preheaters (each)	14.26	34,220	1.00	1.20
BB-1 Furnace	0.51	1,760	1.50	2.60
BB-2 Furnace	0.51	1,760	1.50	2.60
BB-3 Furnace	3.57	29,900	0.50	2.10
BB-4 Furnace	3.57	29,900	0.50	2.10
BB-5 Furnace	6.63	55,700	0.50	2.10
BB-10 Furnace	1.50	12,600	0.50	2.10
BB-12 Furnace	1.50	5,180	2.50	4.32
BB-"J" Furnace	0.18	90	0.50	0.13
BB-15 Furnace	---	---	0.1	0.44
Induction Furnaces				
17B/18B	1,240	12,390	0.12	1.2

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) [T1].

The above limitations were established in Permits 95020060, 90110052, and 99020053, 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].

7.6.7 Testing Requirements

None

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 the affected iron melting operations to demonstrate compliance with Conditions 5.5.1, 7.6.3, 7.6.5, and 7.6.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Conditions 7.6.3(c) and (d):
 - i. Total Iron Melted (ton/mo and ton/yr).
 - ii. Operating hours (hr/mo and hr/yr).
 - iii. Natural gas usage (mmscf/yr).
 - iv. Emissions of PM from each affected iron melting operations and all affected iron melting operations combined as calculated by the procedure described in Condition 7.6.12(b) (lb/hr and ton/yr).

- b. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:
 - i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.

- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.6.3, 7.6.5, and 7.6.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected iron

melting operation 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Greensand operations - Phase II
 - ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

- b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.6.3, 7.6.5, or 7.6.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- c. The Permittee shall submit the following information along with its annual emission report:
 - i. A summary of exceedances of the limits in Conditions 7.6.3, 7.6.5, or 7.6.6, if any, which required notification to the Compliance Section in accordance with Condition 7.6.10(b).
 - ii. The annual emissions of PM and VOM from the affected iron melting operations for each month of the previous calendar year, to demonstrate compliance with Condition 7.6.6, 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).

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 iron melting operation 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:

None

7.6.12 Compliance Procedures

- a. Compliance with Condition 7.6.3(e) and 7.6.3(f) is demonstrated by the use of natural gas as the combustion fuel.
- b. Compliance with Conditions 5.5.1, 7.6.3(c), and 7.6.3(d) shall be based on the recordkeeping requirements in Condition 7.6.9(a) and the emission factors and formulas listed below:
 - i. A. Emission factors for the affected iron melting operations:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/ton)</u>
PM	17.0

These are emission factors determined for the affected iron melting operations using AP-42 emission factors.

- B. Emissions from the affected iron melting operations:

Appropriate Emissions (ton) = Iron Melted (tons) * The Appropriate Emission Factor (lb/ton) ÷ 2000 lb/ton

- ii. A. Emission factors resulting from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u> <u>(lb/mmscf)</u>
PM	7.6
NO _x	100.0
SO ₂	0.6
VOM	5.5
CO	84.0

These are emission factors using AP-42 emission factors for natural gas combustion.

B. Emissions from combustion of natural gas:

Appropriate Emissions (ton) = Natural Gas Consumed (scf) x The Appropriate Emission Factor (lb/mmscf) ÷ 1,000,000 (scf/mmscf) ÷ 2,000 (lb/ton)

7.7 Cleaning, Finishing, and Heat Treating Operations

7.7.1 Description

The cleaning, finishing, and heat treating operations begin with sand being removed from the iron castings using steel shot using the Wheelabrator or the Pangborn machines. After all the sand is removed, any undesired burrs or other pieces of iron are removed from the casting using grinders. Some of the castings are then heat treated to achieve the desired metallurgical properties. Next the castings are then readied for final packaging and shipped to the customer.

7.7.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Wheelabrator Tumbleblast Equipment #5003	Shot Blast Operation	Baghouse #5305
Wheelabrator Tumbleblast Equipment #4001	Shot Blast Operation	Baghouse #4009
Wheelabrator Tumbleblast Equipment #5007	Shot Blast Operation	Baghouse #4308
Wheelabrator Tumbleblast Equipment #6001	Shot Blast Operation	Baghouse #6003
Wheelabrator Tumbleblast Equipment #4401	Shot Blast Operation	Baghouse #4009
Wheelabrator Tumbleblast Equipment #6005	Shot Blast Operation	Baghouse/ Cartridge Filter #2257
Heat Treat Furnace #6201	1.0 mmBtu/hr Heat Treat Furnace	None
Heat Treat Furnace #6203	1.0 mmBtu/hr Heat Treat Furnace	None
Heat Treat Furnace #6204	1.0 mmBtu/hr Heat Treat Furnace	None
Heat Treat Furnace #6205	1.0 mmBtu/hr Heat Treat Furnace	None
Pangborn Table Blast Machine	Shot Blast Operation	Baghouse #4308
7 Stand Grinders	Grinders	Baghouse #4308
4 Bench Grinders	Grinders	Baghouse #4009

7.7.3 Applicability Provisions and Applicable Regulations

- a. An "affected cleaning/finishing/heat treating operation" for the purpose of these unit-specific conditions, is a unit described in Conditions 7.7.1 and 7.7.2.

- b. The affected cleaning/finishing/heat treating operations are subject to the emission limits identified in Condition 5.2.2.
- c. The Wheelabrator Tumblast Equipment #5003, Wheelabrator Tumblast Equipment #5007, Wheelabrator Tumblast Equipment #6005, Pangborn Table Blast Machine, and 7 Stand Grinders are subject to 35 IAC 212.321(a), which provides that:

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 (see also Attachment 1) [35 IAC 212.321(a)].

- d. The Wheelabrator Tumblast Equipment #4001, Wheelabrator Tumblast Equipment #6001, Wheelabrator Tumblast Equipment #4401, Heat Treat Furnace #6201, Heat Treat Furnace #6203, Heat Treat Furnace #6204, Heat Treat Furnace #6205, and 4 Bench Grinders are subject to 35 IAC 212.322(a), which provides that:

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 (see also Attachment 2) [35 IAC 212.322(a)].

- e. 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].

7.7.4 Non-Applicability of Regulations of Concern

None

7.7.5 Operational and Production Limits and Work Practices

- a. Natural gas shall be the only fuel used in the affected cleaning/finishing/heat treating operations.
- b. Emissions shall be vented to the associated pollution control equipment at all times when the affected cleaning/finishing/heat treating operations are in operation.
- c.
 - i. The Permittee shall follow good operating practices and procedures for fabric filters in the baghouses, including periodic inspections, routine maintenance, and prompt repair of defects.
 - ii. The Permittee shall maintain an adequate supply of replacement filters on the premises of the source.

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 cleaning/finishing/heat treating operation to demonstrate compliance with Conditions 5.5.1, 7.7.3, 7.7.5, and 7.7.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Conditions 7.7.3(c) and (d):
 - i. Total Iron Melted (ton/mo and ton/yr).
 - ii. Operating hours (hr/mo and hr/yr).
 - iii. Natural gas usage (mmscf/yr).

- iv. Emissions of PM from all cleaning/finishing/heat treating operations combined as calculated by the procedure described in Condition 7.7.12(b) (lb/hr and ton/yr).
- b. The Permittee shall maintain the following records to demonstrate good operating practices and procedures for the baghouses:
 - i. Records for periodic inspection of the fabric filters with date, individual performing the inspection, and the nature of the inspection.
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
- c. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.7.3, 7.7.5, and 7.7.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of an affected cleaning/finishing/heat treating operation 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. The Permittee shall submit quarterly reports to the Illinois EPA detailing the progress made on odor elimination from the following operations:
 - i. Greensand operations - Phase II

ii. General Foundry and Support Activities - Phase II

The above requirements were established in Permits 90110044, 90110046, 90110047, 90110048, 90110050, and 90110051.

b. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.7.3, 7.7.5, or 7.7.6. The notification shall include:

i. Identification of the limit that may have been exceeded.

ii. Duration of the possible exceedance.

iii. An estimate of the amount of emissions in excess of the applicable standard.

iv. A description of the cause of the possible exceedance.

v. When compliance was reestablished.

c. The Permittee shall submit the following information along with its annual emission report:

i. A summary of exceedances of the limits in Conditions 7.7.3, 7.7.5, or 7.7.6, if any, which required notification to the Compliance Section in accordance with Condition 7.7.10(b).

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected cleaning/ finishing/heat treating operation 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:

None

7.7.12 Compliance Procedures

- a. Compliance with Condition 7.7.3(e) is demonstrated by the use of natural gas as the combustion fuel.
- b. Compliance with Conditions 5.5.1, 7.7.3(c), and 7.7.3(d) shall be based on the recordkeeping requirements in Condition 7.7.9(a) and the emission factors and formulas listed below:

- i. A. Emission factors for the affected cleaning/finishing/heat treating operation:

<u>Pollutant</u>	Emission Factor (lb/ton)
PM	17.0

These are emission factors determined for the affected cleaning/finishing/heat treating operations using AP-42 emission factors.

- B. Emissions from the affected cleaning/finishing/ heat treating operations:

$$\text{Appropriate Emissions (ton)} = \text{Iron Melted (tons)} * \text{The Appropriate Emission Factor (lb/ton)} \div 2000 \text{ lb/ton}$$

- ii. A. Emission factors resulting from the combustion of natural gas:

<u>Pollutant</u>	Emission Factor (lb/mmscf)
PM	7.6
NO _x	100.0
SO ₂	0.6
VOM	5.5
CO	84.0

These are emission factors using AP-42 emission factors for natural gas combustion.

- B. Emissions formula for combustion of natural gas:

$$\text{Appropriate Emissions (ton)} = \text{Natural Gas Consumed (scf)} * \text{The Appropriate}$$

Emission Factor (lb/mmscf) ÷
1,000,000 (scf/mmscf) ÷ 2,000
(lb/ton)

7.8 Soil/Water Treatment System

7.8.1 Description

This system removes organic material from contaminated soil and groundwater. Soil is treated by extracting organic vapors from the ground with a blower. Groundwater is treated by pumping water from the ground into an air stripper. The treated water is sent to the sewer.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
Soil Vapor Extractor	Treats soil by extracting organic vapors from the ground with a blower	None
Air Stripper	Treats groundwater by pumping water from the ground into an air stripper	None

7.8.3 Applicability Provisions and Applicable Regulations

- a. The "affected soil/water treatment system" for the purpose of these unit-specific conditions, is the soil/water treatment system described in Conditions 7.8.1 and 7.8.2.
- b. The affected soil/water treatment system is subject to the emission limits identified in Condition 5.2.2.
- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 218.301 shall apply only to photochemically reactive material [35 IAC 218.301].

Note: Due to history of odor complaints from this source, this Condition applies to any material meeting the definition of organic material in 35 IAC 211.4250.

7.8.4 Non-Applicability of Regulations of Concern

None

7.8.5 Operational Production Limits and Work Practices

None

7.8.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected soil/water treatment system is subject to the following:

Emissions from the affected soil/water treatment system shall not exceed the following limits:

Item of Equipment	VOM Emissions	
	<u>(Lb/Hr)</u>	<u>(Ton/Year)</u>
Soil Vapor Extractor	0.17	0.74
Air Stripper	0.27	1.18

These limits are based on the maximum VOM concentrations measured in the soil and groundwater and the maximum operating rate.

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) [T1].

The above limitations were established in Permit 98040067, pursuant to 35 IAC Part 203. 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 35 IAC Part 203 [T1].

7.8.7 Testing Requirements

None

7.8.8 Monitoring Requirements

None

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 soil/water treatment system to demonstrate compliance with Conditions 5.5.1, 7.8.3, 7.8.5, and 7.8.6, pursuant to Section 39.5(7)(b) of the Act:

- a. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 7.8.3(c) and 7.8.6:
 - i. Concentration of VOM in the treated soil and groundwater, ppm.
 - ii. Hours of operation of equipment.
 - iii. Emissions of VOM, Lb/Hr and Ton/Yr.
- b. The Permittee shall maintain records of the following items for each exceedance of the limits in Conditions 7.8.3, 7.8.5, or 7.8.6, which shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.
 - iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section of deviations of the affected soil/water treatment system 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. The Permittee shall notify the Illinois EPA within 30 days of an exceedance of the limits in Conditions 7.8.3, 7.8.5, or 7.8.6. The notification shall include:
 - i. Identification of the limit that may have been exceeded.
 - ii. Duration of the possible exceedance.
 - iii. An estimate of the amount of emissions in excess of the applicable standard.

- iv. A description of the cause of the possible exceedance.
 - v. When compliance was reestablished.
- b. The Permittee shall submit the following information along with its annual emission report:
- i. A summary of exceedances of the limits in Conditions 7.8.3, 7.8.5, or 7.8.6, if any, which required notification to the Compliance Section in accordance with Condition 7.8.10(a).
 - ii. The annual emissions of VOM from the affected soil/water treatment system for each month of the previous calendar year, to demonstrate compliance with Condition 7.8.6, 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).

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected soil/water treatment system 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:

None

7.8.12 Compliance Procedures

- a. Compliance with Conditions 7.8.3(c) and 7.8.6 shall be determined by the recordkeeping requirements in Condition 7.8.9(a) and the emission factors below:

<u>Item of Equipment</u>	<u>VOM Emission Factor (lb/hr)</u>
Soil Vapor Extractor	0.17
Air Stripper	0.27

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 November 30, 2000 (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].

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]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
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 (MC 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
9511 West Harrison
Des Plaines, Illinois 60016

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 Ton/hr):

	Metric	English
P	Mg/hr	Ton/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 Ton/hr):

	Metric	English
P	Mg/hr	Ton/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	Ton/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
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 Ton/hr):

	Metric	English
P	Mg/hr	Ton/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 Ton/hr):

	Metric	English
P	Mg/hr	Ton/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	Ton/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
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;
 - Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits; or
 - Incorporates into the CAAPP permit revised limitations or other requirements resulting from the application of an approved economic incentives rule, marketable permits rule, or generic emissions trading rule.
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; and
- Are not required to be processed as a significant permit modification.

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 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
	ID 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. ID 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:	

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.



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

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	
<p>24. Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs:</p> <p>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?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>25. Does the application identify and address all applicable emissions standards, including those found in the following:</p> <p>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?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>27. Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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?</p>	<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	
<p>This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.</p>	
<p>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:</p>	
<p>BY:</p> <p>_____</p> <p style="text-align: center;">AUTHORIZED SIGNATURE</p> <p>_____</p> <p style="text-align: center;">TYPED OR PRINTED NAME OF SIGNATORY</p>	<p>_____</p> <p style="text-align: center;">TITLE OF SIGNATORY</p> <p>_____ / _____ / _____</p> <p style="text-align: center;">DATE</p>

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.