

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Sterling Steel Foundry, Inc.
Attn: Michael L. Pourney
2300 Falling Springs Road
Sauget, Illinois 62206

Application No.: 72100990

I.D. No.: 163121AAF

Applicant's Designation:

Date Received: February 26, 2001

Subject: Steel Foundry

Date Issued: January 25, 2002

Expiration Date: January 25, 2007

Location: 2300 Falling Springs Road, Sauget

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of a steel foundry, including 2 sand silos controlled by a dust collector, a shakedown area for sand molding controlled by a dust collector, 3 shotblast chambers controlled by a dust collector and all sand handling (consisting of mold preparation and sand disposal) controlled by moisture pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons per year of volatile organic material (VOM), 25 tons per year of combined hazardous air pollutants (HAPs), and 10 tons per year of single HAPs). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. Operation of the steel foundry shall not exceed the following limits:
 - i. The amount of metal melted shall not exceed 700 tons per month and 7,066 tons per year.
 - ii. The amount of sand processed shall not exceed 7,096 tons per month and 70,956 tons per year.

- b. Emissions of particulate matter (PM) from all processes at the steel foundry shall not exceed the following limits:

<u>Process</u>	<u>Throughput</u>		<u>Emission Factor (Lb/T)</u>	<u>PM Emissions</u>	
	<u>(tpm)</u>	<u>(tpy)</u>		<u>(tpm)</u>	<u>(tpy)</u>
<u>Sand</u>					
Construction Sand & Gravel Material Transfer and Conveying	7,096	70,956	0.029	0.1	1.0
Bulk Loading	7,096	70,956	0.02	0.07	0.71
Screening/Aggregate Storage	7,096	70,956	0.252	0.9	9.0
<u>Store Quarrying-Processing</u>					
Fines Mill	7,096	70,956	0.0315	0.1	1.1
Primary Crushing	7,096	70,956	0.0007	---	0.03
<u>Steel Foundry</u>					
Sand Grinding/Handling	7,096	70,956	1.1	3.9	39.0
<u>Metal</u>					
Core Ovens	700	7,066	1.9	0.7	6.7
Pouring/Casting	700	7,066	2.8	1.0	9.9
Casting/Cooling	700	7,066	1.4	0.5	5.0
Charge Handling	700	7,066	0.6	0.21	2.1
<u>Steel Manufacturing</u>					
Scarfig	700	7,066	0.1	0.04	0.4
<u>Flour, Clay, Sugar, Iron Oxide, Popcorn (Ladle Top), Carbon Insulator</u>					
Bagging of Product	15,773	157,725	0.19	1.5	15.0
<u>Welding Rods</u>					
Shielded Metal Arc Welding					
14 Mn-4CR Electrode	3.5	34.3	163.2	0.28	2.8
			Total:	9.3	92.8

These limits are based on FIRE 6.23 emission factors.

- c. Emissions of all other criteria air pollutants from all equipment and materials at the steel foundry shall not exceed the following limits:

<u>Material/Equipment</u>	<u>Usage</u>	<u>Pollutant</u>	<u>Emissions</u>	
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Natural Gas	11 mmscf/mo, 105 mmscf/yr	NO _x	0.6	5.3
		CO	0.5	4.5

<u>Material/Equipment</u>	<u>Usage</u>	<u>Pollutant</u>	<u>Emissions</u>		
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
		PM ₁₀	0.04	0.4	
		VOM	0.03	0.3	
VOM and HAPs from Paints, Solvents, Oils, Glue, Etc.	0.5 tpm VOM 0.012tpm HAPs	4.8 tpy VOM 0.12 tpy HAPs	VOM HAPs	0.5 0.012	4.8 0.12

<u>Material/Equipment</u>	<u>Usage</u>	<u>Pollutant</u>	<u>Emissions</u>		
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
All Furnaces and Process Sources	700 tons Metal Melted/mo	7,066 tons Metal Melted/yr	VOM	0.63	6.3
			HAPs	0.1	0.9
			NO _x	0.9	9
			SO ₂	0.02	0.15
			PM	0.04	0.4
Alphaset & Alphacure 14 Mn-4CR Electrode	116 tpm	1,164 tpy	VOM, HAPs	1.3	12.9
Welding Rods	3.5 tpm	34.3 tpy	HAPs	0.09	0.9
			Total VOM:	24.3	
			HAPs:	14.8	

This table defines the maximum emissions of the steel foundry and is based on the use of AIRS Fire 6.23 and standard AP-42 emission factors, maximum VOM and HAP contents and test data from the British Cast Iron Research Association. Compliance with annual limits shall be determined on a monthly basis from a running total of twelve months of data, that is, the total of the amount of material for the month and the preceding eleven months.

- 3a. This permit is issued based on emissions of volatile organic material from each process emission unit not exceeding 8 lb/hr pursuant to 35 Ill. Adm. Code 219.301.
- b. This permit is also issued based on emissions of particulate matter from all process emission units not exceeding the limits determined by 35 Ill. Adm. Code 212.321.
- c. This permit is also issued based on emissions of carbon monoxide (CO) from any fuel combustion emission source not exceeding 200 ppm corrected to a 50% excess air pursuant to 35 Ill. Adm. Code 216.121.
- d. This permit is also issued based on emissions of sulfur dioxide (SO₂) from each process emission source not exceeding 2,000 ppm, pursuant to 214.301.
4. The Permittee shall, in accordance with the manufacturer and/or vendor recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation

of the Environmental Protection Act or regulations promulgated thereunder.

5. The Permittee shall maintain monthly records of the following items for the steel foundry:
 - a. Total metal melted, tons/month and tons/year (running total);
 - b. Sand processed (tons/month and tons/year);
 - c. Flour, clay, sugar, iron oxide, popcorn (ladle top), welding rods and carbon insulator (tons/mo and tons/yr);
 - d. All materials processed containing VOM and HAPS, (paints, solvents, oils, glue, alphaset and alphacure, etc.), tons or gallons/month and tons or gallons/year (running total);
 - e. VOM and HAP contents of all materials (lb/gallon or wt. %); and
 - f. PM, VOM and HAP emission calculations (tons/month and tons/year).
6. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
7. The Permittee shall not cause or allow any visible emissions of fugitive particulate matter from any process, including material handling or storage activity, beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
8. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
9. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
10. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a

description of the exceedance or violation and efforts to reduce emissions and future occurrences.

11. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

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

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

12. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:
 - a. Tons metal melted (tons/mo and tons/yr);
 - b. Sand processed (tons/month and tons/year);
 - c. Flour, clay, sugar, iron oxide, popcorn (ladle top), welding rods and carbon insulator (tons/mo and tons/yr);
 - d. All materials processed containing VOM and HAPs (paints, solvents, oils, glue, alphaset and alphacure, etc. (tons/mo and tons/yr);
 - e. VOM and HAP contents (lb/gal or wt. %); and
 - f. PM, VOM and HAP emission calculations.

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

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

DES:RBS:jar

cc: Illinois EPA, FOS Region 3
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from steel foundry operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is receiving 70,956 tons of sand and melting 7,066 tons of steel per year. The resulting maximum emissions are well below the levels, e.g., 10 tons per year for a single HAP, 25 tons per year for totaled HAPs, and 100 tons per year of VOM at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

- 1a. Emissions of particulate matter (PM) from all processes at the steel foundry shall not exceed the following limits:

<u>Process</u>	<u>PM Emissions</u> <u>(tpm) (tpy)</u>	
Construction Sand & Gravel		
Material Transfer and Conveying	0.1	1.0
Bulk Loading	0.07	0.71
Screening/Aggregate Storage	0.9	9.0
Store Quarrying-Processing		
Fines Mill	0.1	1.1
Primary Crushing	---	0.03
Steel Foundry		
Sand Grinding/Handling	3.9	39.0
Core Ovens	0.7	6.7
Pouring/Casting	1.0	9.9
Casting/Cooling	0.5	5.0
Charge Handling	0.21	2.1
Steel Manufacturing		
Scarfig	0.04	0.4
Bagging of Product	1.5	15.0
Shielded Metal Arc Welding		
14 Mn-4CR Electrode	<u>0.28</u>	<u>2.8</u>
Total:	9.3	92.8

These limits are based on FIRE 6.23 emission factors.

- b. Emissions of all other criteria air pollutants from all equipment and materials at the steel foundry shall not exceed the following limits:

<u>Material/Equipment</u>	<u>Usage</u>	<u>Pollutant</u>	<u>Emissions</u>		
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	
Natural Gas	11 mmscf/mo, 105 mmscf/yr	NO _x	0.6	5.3	
		CO	0.5	4.5	
		PM ₁₀	0.04	0.4	
		VOM	0.03	0.3	
VOM and HAPs from					
Paints, Solvents,	0.5 tpm VOM	4.8 tpy VOM	VOM	0.5	4.8
Oils, Glue, Etc.	0.012tpm HAPs	0.12 tpy HAPs	HAPs	0.012	0.12
All Furnaces and Process Sources	700 tons Metal Melted/mo	7,066 tons Metal Melted/yr	VOM	0.63	6.3
			HAPs	0.1	0.9
			NO _x	0.9	9
			SO ₂	0.02	0.15
			PM	0.04	0.4
Alphaset & Alphacure	116 tpm	1,164 tpy	VOM, HAPs	1.3	12.9
14 Mn-4CR Electrode Welding Rods	3.4 tpm	34.3 tpy	HAPs	0.09	0.9
			Total VOM:	24.3	
			HAPs:	14.8	

2. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.

RBS:jar