

- 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/year for particulate matter less than 10 microns (PM₁₀)). As a result, the source is excluded from requirements 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. 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 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124
- b. 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 Ill. Adm. Code 212.301 and 212.314.
- c. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in Conditions 3(c)(i) through 3(c)(ii) (see also 35 Ill. Adm. Code 212.304 through 212.308) shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
 - i. All normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.
 - ii. All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.

- iii. Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program.
- d. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall include the following:
 - i. The name and address of the source;
 - ii. The name and address of the owner or operator responsible for execution of the operating program;
 - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
 - iv. Location of unloading and transporting operations with pollution control equipment;
 - v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
 - vi. Estimated frequency of application of dust suppressants by location of materials; and
 - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- e. Pursuant to 35 Ill. Adm. Code 212.321(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 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 in 35 Ill. Adm. Code 212.321(c).
- 3a. The dust collectors shall be in operation at all times when the associated emission units are in operation and emitting air contaminants.
- b. The Permittee shall follow good operating practices for the cyclone and filter, including periodic inspection, routine maintenance and prompt repair of defects.

4a. Emissions and operation of the foundry sand additive production shall not exceed the following limits:

- i. Production of foundry sand additive at this facility shall not exceed 16,000 tons/month and 160,000 tons/year. This represents the maximum amount of product processed through the weigh hopper and mixing system, maximum throughput of other process equipment is half these totals.
- ii. Production and emissions of particulate matter less than 10 microns shall not exceed the following limits:

<u>Emission Unit</u>	<u>Control Type</u>	<u>Control Efficiency</u>	<u>PM, PM₁₀ Emissions</u>	
			<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Coal Mill 030	Cyclone & Filter	99	3.20	31.90
Coal Mill 044	Cyclone & Filter	99	3.20	31.90
Ground Coal	Filter	99	0.04	0.44
Railroad Car Loading	Filter	99	0.04	0.44
Silo #1	Filter	99	0.04	0.44
Silo #2	Filter	99	0.04	0.44
Silo #3	Filter	99	0.04	0.44
Silo #4 & #5	Filter	99	0.04	0.44
Silo #7	Filter	99	0.04	0.44
Silo #8	Filter	99	0.04	0.44
Silo #9	Filter	99	0.04	0.44
Bag Dump Hopper	Filter	99	0.04	0.44
Weigh Hopper	Filter	99	0.04	0.44
Mixing System	Filter	99	0.04	0.44
Finished Product	Filter	99	0.04	0.44
West Loadout	Filter	99	0.04	0.44
East Loadout	Filter	99	0.04	0.44
Silo #10	Filter	99	0.04	0.44
Silo #6	Filter	99	0.04	0.44
			<u>Total</u>	<u>70.46</u>

These limits are based on standard emission factors (Table 11.23-1 for the coal mills (79.8 lbs/ton) and bag dump, weigh hopper and mixing system (0.22 lb/ton) AP-42, Fifth Edition, Volume I, Supplement C, February 1997; and Table 11.24-2 for all other processes (1.1 lbs/ton), AP-42, Fifth Edition, Volume I, August 1982).

b. Emissions and operation of the nine (9) natural gas-fired heaters shall not exceed the following limits:

<u>Process</u>	<u>Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>		<u>Factor</u>	<u>(Lbs/Mo)</u>	<u>(Tons/Yr)</u>
Natural Gas	10	100	NO _x	100	1,000	5.00

<u>Process</u>	<u>Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>		<u>Factor</u>	<u>(Lbs/Mo)</u>	<u>(Tons/Yr)</u>
Combustion			CO	84	840	4.20
			PM, PM ₁₀	7.6	8	0.38
			VOM	5.5	55	0.28
			SO ₂	0.6	6	0.03

These limits are based on standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998) and the maximum natural gas usage.

- c. Compliance with the annual limits of this permit 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).

- 5a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
 - i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

 - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

- b. Testing required by Condition 6 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.

- 6a. Pursuant to 35 Ill. Adm. Code 212.107, for both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301, pursuant to 35 Ill. Adm. Code 212.107.
- b. Pursuant to 35 Ill. Adm. Code 212.109, except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged, pursuant to 35 Ill. Adm. Code 212.109.
- c. Pursuant to 35 Ill. Adm. Code 212.110(a), measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR Part 60, Appendix A, Methods 5, 5A, 5D, or 5E, pursuant to 35 Ill. Adm. Code 212.110(a).
- d. Pursuant to 35 Ill. Adm. Code 212.110(b), the volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4, pursuant to 35 Ill. Adm. Code 212.110(b).
- e. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c).
7. Inspections of the aggregate foundry and dust collection systems equipment and operations shall be performed as necessary but at least once per week when the emission units associated with the dust collectors are in operation to confirm compliance with the requirements of this permit.

8. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- 9a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit.
 - i. Records addressing the application of control measures taken pursuant to the operating program required by Condition 3(c) which are used to reduce fugitive particulate matter emissions.
 - ii. Records addressing use of good operating practices for the dust collectors:
 - A. Operating logs for the dust collectors, including operating data (pressure drop or stack condition), daily upon startup;
 - B. Records for periodic inspection of the dust collectors with date, individual performing the inspection, and nature of inspection; and
 - C. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - iii. Coal, clay, soda ash, cellulose usage (tons/month and tons/year);
 - iv. Copper Based Alloy production (tons/month and tons/year);
 - v. New Sand additions (tons/month and tons/year); and
 - vi. Monthly and annual emissions of PM and PM₁₀ with supporting calculations (tons/month and tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years after 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 storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
10. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.

11. If there is an exceedance of or a deviation from 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 deviation and efforts to reduce emissions and future occurrences.

12. Two (2) copies of required reports and notifications 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 - Region 3
2009 Mall Street
Collinsville, Illinois 62234

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

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:DLB:psj

cc: IEPA, FOS Region 1
Lotus Notes

Attachment A - Actual Emissions Summary

This attachment provides a summary of the maximum emissions from this foundry sand manufacturing facility 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. The resulting maximum emissions are well below the levels (e.g., 100 tons/yr of PM₁₀) 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.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)				
	<u>CO</u>	<u>NO_x</u>	<u>PM, PM₁₀</u>	<u>SO₂</u>	<u>VOM</u>
Coal Mill 030			31.90		
Coal Mill 044			31.90		
Ground Coal			0.44		
Railroad Car Loading			0.44		
Silo #1			0.44		
Silo #2			0.44		
Silo #3			0.44		
Silo #4 & #5			0.44		
Silo #7			0.44		
Silo #8			0.44		
Silo #9			0.44		
Bag Dump Hopper			0.10		
Weigh Hopper			0.20		
Mixing System			0.20		
Finished Product			0.44		
West Loadout			0.44		
East Loadout			0.44		
Silo #10			0.44		
Silo #6			0.44		
Fuel Combustion			0.38	0.03	0.28
Totals	<u>4.20</u>	<u>5.00</u>	<u>70.84</u>	<u>0.03</u>	<u>0.28</u>

DLB:psj