

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Alsey Refractories Company  
Attn: Jim Jensen  
Post Office Box 20, Highway 106  
Alsey, Illinois 62610

Application No.: 72111267  
Applicant's Designation:  
Subject: Refractory Plant  
Date Issued: April 29, 2003  
Location: Highway 106, Alsey

I.D. No.: 171005AAA  
Date Received: April 17, 2000  
Expiration Date: April 29, 2008

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of a refractory plant consisting of trailer dumps, an eagle crusher, a rotary dryer controlled by dust collector, dry pan controlled by dust collector, screens controlled by dust collector, storage bins, five brick presses, two brick dryers, tunnel kiln, grog crusher, a pneumatic transporter, a weight hopper controlled by dust collector, an eirich mixer controlled by dust collector, dry baggers controlled by dust collector and conveyor/auger transferring 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/year for particulate matter-10 (PM<sub>10</sub>), 100 tons/year for carbon monoxide (CO), 10 tons/year for any single hazardous air pollutant (HAP), and 25 tons/year for combination 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 refractory plant shall not exceed the following limits:

	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
Brick Production Rate:	4,000	40,000
Rotary Dryer Throughput:	20	200
Mortar and Castable Line Throughput:	180	1,800

- b. Particulate Matter Emissions from the refractory plant shall not exceed the following limits:

Emission Unit	Throughput		Emission Factor (Lb/Ton)	PM Emissions	
	(Tons/Mo)	(Tons/Yr)		(Tons/Mo)	(Tons/Yr)
Eagle Crusher	4,000	40,000	0.0066	0.02	0.14
Dry Pan Crusher	4,000	40,000	0.0059	0.02	0.2
Screens	4,000	40,000	0.0062	0.02	0.13
Brick Dryer	4,000	40,000	0.077	0.16	1.6
Tunnel Kiln	4,000	40,000	0.96	2.0	19.2
Grog Crusher	800	8,000	0.025	0.01	0.1
Conveyor Trans	4,000	40,000	0.03	0.06	0.6
Rotary Dryer	30	300	0.65	0.01	0.1
Pneumatic Trans	180	1,800	0.1	0.01	0.1
Weigh Hopper	180	1,800	0.1	0.01	0.1
Eirich Mixer	180	1,800	0.1	0.01	0.1
Dry Bagger	60	600	0.1	0.01	0.03
			Total	2.34	22.4

These limits define the potential emissions of the refractory plant operation and are based on the actual emissions determined from maximum production capacity, high efficiency for the dust collection system, and standard emission factors. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.

3. This permit is issued based on negligible emissions of particulate matter from the trailer dumps, material storage bins, and all five presses. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 4a. Emissions and operation of the tunnel kiln shall not exceed the following limits:

Throughput		Pollutant	Emission Factor (Lb/Ton)	Emissions	
(Tons/Mo)	(Tons/Yr)			(Tons/Mo)	(Tons/Yr)
4,000	40,000	NO <sub>x</sub>	0.35	0.7	7.0
		VOM	0.024	0.05	0.5
		CO	1.20	2.4	24.0
		SO <sub>2</sub>	0.67	1.4	13.4
		HF	0.37	0.8	7.4
		HCL	0.17	0.4	3.4
		FL	0.59	1.2	11.8

- b. Emissions and operation of the brick dryer shall not exceed the following limits:

Throughput		Pollutant	Emission Factor (Lb/Ton)	Emissions	
(Tons/Mo)	(Tons/Yr)			(Tons/Mo)	(Tons/Yr)
4,000	40,000	NO <sub>x</sub>	0.098	0.2	2.0
		VOM	0.03	0.06	0.6
		CO	0.31	0.7	6.2

These limits define the actual emissions of nitrogen oxides (NO<sub>x</sub>) carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), volatile organic material (VOM), hydrogen fluoride (HF), hydrochloric acid (HCL), and fluorides (FL) and are based on maximum material usage, and standard emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 5a. Emissions and operation of the rotary dryer shall not exceed the following limits:

Material	Usage		Pollutant	Emission Factor (Lb/1000 Gal)	Emissions	
	(10 <sup>3</sup> Gal/Mo)	(10 <sup>3</sup> Gal/Yr)			(T/Mo)	(T/Yr)
#2 Fuel	9	90	NO <sub>x</sub>	20	0.1	0.9
Oil			CO	5	0.03	0.23
			SO <sub>2</sub>	39.7	0.18	1.8

- b. This permit is issued based on the use of diesel fuel in the rotary dryer. Use of any other fuel will require a revised permit.
- 6a. The dust collection system shall be in operation at all times when the associated emission unit(s) is in operation and emitting air contaminants.
- b. At least once per week the Permittee shall inspect the refractory plant's control equipment during its operation, to include enclosures and duct work, to ensure that it is operating properly.
- c. The Permittee shall maintain operating and maintenance logs for the refractory plant's control system, including: maintenance activities, with date and description of inspections, repair actions, and equipment or filter bag replacements, etc.
- d. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) 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 therein.

- 7a. Organic liquid by-products or waste materials shall not be used at this source without written approval from the Illinois EPA.
- b. The Permittee shall notify the Illinois EPA prior to any change in the type of fuel used at the source.
8. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
- 9a. The Permittee shall maintain operating and maintenance logs for the refractory plant's control system, including inspection for leaks in duct work and any visible emissions of particulate matter.
- b. The Permittee shall maintain monthly records of the following items:
  - i. Brick production rate (tons/month and tons/year);
  - ii. Rotary dryer throughput (tons/month and tons/year);
  - iii. Mortar and castable line throughput (tons/month and tons/year);
  - vi. Fuel oil usage for the rotary dryer (gallons/month and gallons/year); and
  - v. Detailed calculations of PM, CO, HF, and HCL emissions (tons/month and tons/year).
10. 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.
11. 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.
12. 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  
5415 North University  
Peoria, Illinois 61614

13. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Brick, mortar, and castable production rates (tons/month and tons/year) and calculations of PM, CO, HF, and HCL emissions (tons/month and tons/year) from the prior calendar year. If there has been no exceedance of a requirement of this permit during the prior calendar year, the annual emission report shall contain a statement to that effect.

It should be noted that the two fuel oil storage tanks are exempt from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(n).

Please note that this federally enforceable state operating permit is issued to limit the emissions of hydrogen fluorides and hydrochloric acid from the source to less than major source thresholds. As a result, the source is excluded from the requirements of the proposed National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Refractor Plants, 40 CFR Subpart SSSS.

It should be noted that the brick dryers and rotary dryers are not subject to NSPS 40 CFR Subpart UUU for calciners and dryers since they were constructed, modified, or reconstructed before April 23, 1986.

If you have any questions on this, please call Tara T. Nguyen-Ede at 217/782-2113.

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

DES:TNE:psj

cc: Illinois EPA, FOS Region 2  
Illinois EPA, Compliance Section  
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from refractory plant 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 per year of particulate matter-10 (PM<sub>10</sub>), 100 tons per year for carbon monoxide (CO), 10 tons per year for any single hazardous air pollutant (HAP), and 25 tons per year for combination of HAPs) 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.

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