

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1343-AR-2

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Acme Brick Company
1615 Grigsby Ford Road
Malvern, Arkansas 72104

3. PERMIT WRITER: Karen Cerney

4. NAICS DESCRIPTION AND NAICS CODE:

NAICS Description: Brick and Structural Clay Tile Manufacturing
NAICS Code: 327121

5. SUBMITTALS: February 28, 2005

6. REVIEWER'S NOTES:

Acme Brick Company owns and operates a clay brick manufacturing facility located at 1615 Grigsby Ford Road in Malvern, Arkansas. This facility manufactures hard fired clay brick for use in the construction of commercial and residential structures. This modification allows the permittee to add six new conveyors and two clay silos to the existing grinding building (SN-09), to lengthen the holding room, to replace seventy burners, and to revise the emission rates for the tunnel kiln (SN-06). The new equipment that is being added to the grinding building will be subject to NSPS Subpart OOO. Based on June 26, 2003 test data for SN-06, the facility is a minor source for HAPs. The compliance date for 40 CFR 63, Subpart JJJJ – National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing is May 16, 2006. Therefore, the facility is no longer subject to 40 CFR 63, Subpart JJJJ. This permitting action is necessary to establish minor source status based upon the reduction to below 10 tons per year (tpy) of any individual HAP or 25 tpy of any combination of HAPs. The proposed changes result in permitted increases of 0.9 tons per year (tpy) in PM emissions, 0.6 tpy in PM10 emissions, 0.6 tpy in VOC emissions, 0.6 tpy in CO emissions, NOX is 10.0 tpy, and permitted decreases of 10.16 tpy in HF emissions and 6.09 tpy in HCl emissions.

7. COMPLIANCE STATUS:

The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues: the facility has no current enforcement actions as of 04/12/05.

8. APPLICABLE REGULATIONS:

Regulation 18 - Arkansas Air Pollution Control Code, Regulation 19 - Regulations of The Arkansas Plan of Implementation for Air Pollution Control, Regulation 26 – Regulations of the Arkansas Operating Air Permit Program, and 40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera)? N

Has this facility undergone PSD review in the past? N

Is this facility categorized as a major source for PSD?
 ≥ 100 tpy and on the list of 28 (100 tpy)? N
 ≥ 250 tpy all other

PSD Netting

Was netting performed to avoid PSD review in this permit? N

Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
SN-09	PM	NSPS Subpart OOO

9. EMISSION CHANGES:

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1343-AOP-R1	Air Permit 1343-AOP-R2	Change
PM	25.5	26.4	+0.9
PM ₁₀	25.5	26.1	+0.6
SO ₂	55.3	55.3	+0.0
VOC	12.0	12.6	+0.6
CO	54.3	54.9	+0.6
NO _x	19.2	29.2	+10.0

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Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1343-AOP-R1	Air Permit 1343-AOP-R2	Change
HF	19.41	9.25	-10.16
HCL	9.80	3.71	-6.09

10. **MODELING:**

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Non-Criteria Pollutants

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
HCL	3.0	0.33	1.07	No
HF	2.5	0.28	2.48	No

2nd Tier Screening (PAIL)

ISCST3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
HCL	30	12.9*	Yes
HF	25	21.3*	Yes

*Modeled at higher concentrations from 1343-AOP-R1.

11. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equip Type (if any)	Control Equip Efficiency	Comments (Emission factor controlled / uncontrolled, etc)
04	Stack Test Data	For tpy: avg lb/hr from stack test *4.38*1.1 safety factor *1.25 test production ratio For lb/hr: max. lb/hr from stack test*1.1 safety factor*1.25 test production ratio	None	N/A	Stack test data from test conducted in Oct 1997.
05	Stack Test Data		None	N/A	
06	Stack Test Data		None	N/A	Stack test data from test conducted in October 1997 except HF and HCL. HF and HCL emissions from stack test conducted on June 26, 2003.
09	AP-42	PM: 0.0062 lb/ton PM ₁₀ : 0.0032 lb/ton	None	N/A	AP-42 factor * 1.1 safety factor
10	Vendor Data	NO _x : 25 lb/hr CO: 1.39 lb/hr VOC: 1.36 lb/hr PM: 0.37 lb/hr	None	N/A	

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12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
06	HF	26A, 320, or equivalent approved by Department	One time test, within 5 years of the date of the issuance of Permit #1343-AR-2	HF is based upon raw material from geographical area.
09	PM	9	Initially	NSPS Subpart 000

13. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
09	Opacity	Method 22 Trained Observer	Monthly	N

14. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
09	Opacity	0%	Monthly	N
06	Natural Gas Usage	321,667 MMBtu per year	Monthly	N
10	Standby Generator Usage	800 hr/yr	Monthly	N

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SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
Facility	Annual Production Limit	150,042 tons of clay brick	Monthly	N

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

** Indicates whether the item needs to be included in reports

15. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
04, 05, 06, and 10	20%	Dept. Guidance	Inspector Observation
09	0%	NSPS	Monthly Observation

16. DELETED CONDITIONS:

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
12	The facility is no longer subject to 40 CFR 63, Subpart JJJJ since it is no longer a major source of HAPs.

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17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

List all active permits voided/superseded/subsumed by issuance of this permit for this facility.

Permit #
1343-AOP-R1

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Phillip Murphy, P.E.