STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2168-A AFIN: 60-00005

1. PERMITTING AUTHORITY:

   Arkansas Department of Environmental Quality
   5301 Northshore Drive
   North Little Rock, Arkansas 72118-5317

2. APPLICANT:

   AluChem of Little Rock, LLC
   10500 Arch Street Pike
   Little Rock, Arkansas 72206

3. PERMIT WRITER:

   Derrick Brown

4. PROCESS DESCRIPTION AND NAICS CODE:

   NAICS Description: Kaolin and Ball Clay Mining
   NAICS Code: 212324

5. SUBMITTALS:

   3/12/2008

6. REVIEWER'S NOTES:

   AluChem, LLC (60-00005) plans to construct and operate an alumina refining facility located at 10500 Arch Street Pike, Little Rock, Pulaski County, Arkansas. Raw alumina will be received, dried/processed at this facility. Permitted facility emissions will be 18.9, 12.0, 0.1, 15.4, 0.9, 12.9 and 9.5 tons per year of PM, PM_{10}, SO_2, NO_x, VOC, CO and HF respectively. Hydrogen fluoride will be produced as a by-product of the process.

7. COMPLIANCE STATUS:

   The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

   There are no current/pending enforcement actions for this facility.

8. PSD APPLICABILITY:

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

b. Is the facility categorized as a major source for PSD? N
Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

If yes, explain why this permit modification not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Calciner (SN-03)	Particulate	40 CFR Part 60, Subpart UUU

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. 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 has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), 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?
HF*	0.409	0.044	2.2	No

*Hydrogen Fluoride

2nd Tier Screening (PAIL)

AERMOD 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 has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
HF	4.0	3.6	Yes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	AP-42, 11.24.1	1.1 lb/ton	Yes	99%	Bin Vent Filter
02	AP-42, 11.24.1	1.1 lb/ton	Yes	99%	Bin Vent Filter
03	AP-42, 11.24.1 & Natural Gas Section for Combustion; HF control with Sodium Bicarbonate spray based on chemistry.	19.7 lb PM/ton; 12.0 lb PM_{10}/ton	Yes	99% for Particulate; 50% for Hydrogen Fluoride	Cyclone & Baghouse for Particulate; H_2O spray with sodium bicarbonate for HF
04	AP-42, 11.24.1	2.4 lb PM/ton; 0.31 lb PM_{10}/ton	Yes	99%	Fabric Collector
05	AP-42, 11.24.1	0.01 lb PM/ton; 0.004 lb PM_{10}/ton	No	N/A	None
06	AP-42, 11.24.1	1.1 lb PM/ton	Yes	99%	Bin Vent Filter

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
03	Particulate, Opacity and Hydrogen Fluoride	Method 5, Method 9 and a Method approved by the Department.	Initial.	§60.736(b)(1) & (2)

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
03	Opacity	CEM	Continuously	N

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01	Product received	131,400 tons	Monthly	N
03	Opacity; Sodium Bicarbonate Spray use	10%; 437 lbs	Continuously	N*

*Only exceedances are required to be reported.

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-06	10%	§18.501 of Regulation 18	None

17. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
There were no insignificant activities identified this permit action.								

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
N/A

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Thomas Rheaume, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Facility Name:AluChem
Permit Number:2168-A
AFIN:60-00005

$/ton factor	20.96
Minimum Fee $	400
Minimum Initial Fee $	500

	Old Permit	New Permit
Permit Predominant Air Contaminant	[redacted]	[redacted]
Net Chargable Emission Increase	[redacted]	
Permit Modification Fee $	0	
Initial Permit Fee $	500	
Annual TPY Chargeable Emissions	18.9	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	0	18.9	18.9
PM_{10}	0	12	12
SO_2	0	0.1	0.1
VOC	0	0.9	0.9
CO	0	12.9	12.9
NO_X	0	15.4	15.4
HF	0	9.5	9.5
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Pollutant (tpy)	Old Permit	New Permit	Change
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