

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1527-AOP-R11 AFIN: 63-00010

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Almatis, Inc.
4701 Alcoa Road
Bauxite, Arkansas 72011

3. PERMIT WRITER:

Parviz Mokhtari

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Alumina Refining
NAICS Code: 331311

5. SUBMITTALS:

10/10/2008

6. REVIEWER'S NOTES:

Almatis requested approval to increase emission limit for SN-426EP06 and SN-426EP07 based on the stack test results of the samples May 2008. This modification results in increase by 82.4 tpy. The increase amount is above PSD threshold limit of 40 tpy. However, according to 40CFR 52.21(b)(2)(i), this modification is not involved any physical change or change in the method of the operation. In addition, since SN-426EP06 and SN-426EP07 were installed in 1967 which is before the PSD regulation was effective, these sources are qualified to be grandfathered sources. Therefore, PSD does not apply for these modifications.

Additionally, Almatis submitted an application for a minor modification to Permit #1527-AOP-R10. Almatis requested an authorization to adjust the emission limit for the new classifier system at Building 420, SN-420BH07. This adjustment is necessary because the classifier was

incorrectly sized by the vendor. The permitted emissions are increasing in PM/PM₁₀ by 7.1 tons per year (tpy).

7. COMPLIANCE STATUS:

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

There is a pending enforcement for the following reasons:

- Failed stack tests were performed on May 20, 2008 and May 21, 2008 for NOx at SN-420EP06 and SN-420EP07.
- Failed stack tests were performed on July 29, 2008 for PM at SN-405BH0133 and SN-420EP0233.
- Also, Almatris submitted a late Semi-Annual Monitoring (SAM) report.

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? Y
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)
046BL01 046BL02 046BL03 046BL04 046BL05	fuel record keeping only	NSPS Part Dc
451BH011 451BH015	PM, Opacity	NSPS Subpart UUU
426BH3314 405BH0134 435BH0760 420BH07	PM, Opacity	NSPS Subpart LL

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.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	230.5	50	Annual	2.75	5.5
		150	24-Hour	22.33	14.9
SO ₂	9.6	80	Annual	4	0.5
		1300	3-Hour	17.2	1.3
		365	24-Hour	6.5	1.7
CO	79.1	10,000	8-Hour	112	1.12
		40,000	1-Hour	218	0.5
NO _x	150.5	100	Annual	7.5	7.5

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) = $0.11 \times \text{TLV}$	Proposed (lb/hr)	Pass?
Formaldehyde	1.5	0.17	0.03	Y
Hydrogen Fluoride	2.45	0.27	58.1	N
Diethanolamine	2	0.22	0.4	N

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 ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Hydrogen Fluoride	24.5	14.7	Y
Diethanolamine	20	0.1	Y

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
All Natural Gas Fired Sources	AP-42	Varied	Varied	Varied	-----
All Baghouses and Scrubbers	Grain Loading	Varied	Baghouse or Scrubber	Varied	-----
HF emissions from 405BH0133 and EP0233	Testing	915 lb HF per ton Aluminum Fluoride	N/A		
143FHE01	Combustion: (AP-42)	5.8 lb/10 ³	N/A	N/A	
Formaldehyde emissions from 143FHE01	Testing	100 lb per year of Formaldehyde/8.33 MM lb Silane coated product	N/A	N/A	
SN-426EP06 and SN-426EP07	Stack Test for NOx	36.81 lb/hr X 1.1 (Safety Factor)	ESP	99%	based on the stack test results of the samples May 2008
SN-420BH07	NSPS Subpart LL	Standard Grain Loading = 0.02 grain/dscf	Baghouse	99.9%	Using Max blower capacity of 10,000 CFM

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
046BL01 thru 05	CO NO _x	7E 10	Every 5 years	Department Guidance
405BH0133 405EP0233 060EP0241 425EP04 426EP06 426EP07	PM CO NO _x	5 7E 10	Annual or Bi-annual	Department Guidance
405BH0133 405EP0233	HF	26	Annual or Bi-annual	Department Guidance
060BH0573	PM	5	Annual or Bi-annual	Department Guidance
426BH3314 405BH0134 451BH0760 400BH09 420BH07	PM	5 or 17	Within 180 days of startup	NSPS Subpart LL
415BH0001 through 415BH0018*	PM	5 or 17	Within 180 days of startup	NSPS Subpart LL
*	Stack testing be performed on one source in each of the following groups; Test 1: 415 BH02, 415 BH 03, 415 BH04 and 415 BH05 Test 2: 415 BH01, 415 BH06, 415 BH07, 415 BH09, 415 BH11, 415 BH12, 415 BH13 and 415 BH14 Test 3: 415 BH08 and 415 BH10 Test 4: 415 BH15 Test 5: 415 BH16. 415 BH17 and 415 BH18			

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)
There are no monitoring or CEMS required by this permit.				

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)
046BL01-05	40 CFR Part 60, Subpart Dc	None	Monthly	N
415BH015 415BH011	Records of initial tests	None	Once	Y
Hydrate Section	Silane coated alumina trihydrate production	8.2 million pounds	Monthly	Y
405BH0133 405EP0233	Aluminum fluoride feed rate	127 lb/hr and 109.5 tpy HF emissions	Daily and monthly	Y
425AUC01	Alumina load-out	20,000 tons/12 mo	Monthly	Y
SN-415BH0001 through 415BH0018	Records of initial performance tests	None	Once	Y

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
Appendix A of the permit is a summary of all the opacity requirements in the permit.			

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
No insignificant activity was reported with this application.								

Permit #: 1527-AOP-R11

AFIN: 63-00010

Page 7 of 7

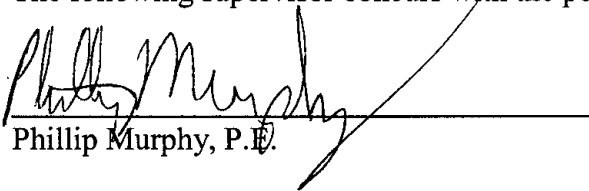
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1527-AOP-R10

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.


Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Facility Name: Almatris, Inc.
 Permit Number: 1527-AOP-R11
 AFIN: 63-00010-R11

\$/ton factor	22.07	Annual Chargeable Emission (tpy)	<u>1892.6</u>
Permit Type	Modification	Permit Fee \$	<u>1975.265</u>

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	89.5

HAPs not included in VOC or PM:

Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride

Air Contaminants:

All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	<input checked="" type="checkbox"/>	897.8	904.9	7.1	7.1	904.9
PM ₁₀	<input type="checkbox"/>	860.9	898	37.1		
SO ₂	<input checked="" type="checkbox"/>	40.2	40.2	0	0	40.2
VOC	<input checked="" type="checkbox"/>	70.4	70.4	0	0	70.4
CO	<input type="checkbox"/>	344.9	344.9	0		
NO _x	<input checked="" type="checkbox"/>	685.2	767.6	82.4	82.4	767.6
Formaldehyde	<input type="checkbox"/>	0.02	0.02	0		
Hydrogen Fluoride	<input checked="" type="checkbox"/>	109.5	109.5	0	0	109.5
Diethanolamine	<input type="checkbox"/>	1.5	1.5	0		

