

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1527-AOP-R7 AFIN: 63-00010

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Almatis, Inc.  
4701 Alcoa Road  
Bauxite, Arkansas 72011

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Alumina Refining  
NAICS Code: 331331

5. SUBMITTALS:

October 30, 2006, December 18, 2006, and January 31, 2007

6. REVIEWER'S NOTES:

Almatis, Inc. is a manufacturer of various forms of alumina located at 4701 Alcoa Road in Bauxite, AR. PGA from the Hydral Production Processes is currently loaded into rail cars for transport to offsite packaging. Almatis plans to start an on-site bagging operation at Building 451. Building 451 is currently employed as a part of the Hydral Production Processes. With the first permit modification, Almatis would like to relocate, utilize, and renumber an idle baghouse (435BH0760), the #5 Blender Dust Collector. The process equipment that the idle baghouse used to control has been removed from service. After relocation of the idle baghouse it will be renumbered from 435BH0760 to 451BH0760 and it will be used in Building 451 to control emissions from PGA bagging operations. With the second permit modification, Almatis would like remove from service the #5 Storage Bin Dust Collector (400BH01) from building 400 due to the end of its service life. Additionally, Almatis would like to relocate, utilize, and renumber an idle baghouse (60BH0402) to replace the baghouse being removed from service. After relocation of the idle baghouse it will be renumbered from 60BH0402 to 400BH09. The idle baghouse 60BH0402 will not be replaced because the operation is not currently active. A third

minor modification was submitted seeking approval to relocate an idle baghouse (426BH1035) from building 426 to building 405 for dust control. The process equipment that the idle baghouse previously controlled has been removed from service. After relocation, baghouse 426BH1035 will be renamed baghouse 405BH1035. For the modifications proposed, the permitted emissions increase by 2.2 tpy of PM and PM<sub>10</sub>.

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 known enforcement actions against the facility.

8. APPLICABLE REGULATIONS:

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N  
 Has the facility undergone PSD review in the past? N  
 Is the facility categorized as a major source for PSD? Y  
     ≥ 100 tpy and on the list of 28? Y  
     ≥ 250 tpy all other? Y

PSD Netting

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

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 405BH1035	PM, Opacity	NSPS Subpart LL

9. EMISSION CHANGES:

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

Plantwide Permitted Emissions (tpy)			
Pollutant	Permit # 1527-AOP-R6	Permit # 1527-AOP-R7	Change
PM	898.9	901.1	+ 2.2
PM <sub>10</sub>	892.0	894.2	+ 2.2
SO <sub>2</sub>	40.2	40.2	0
VOC	60.9	60.9	0
CO	344.9	344.9	0
NO <sub>x</sub>	680.0	680.0	0
Formaldehyde	0.05	0.05	0
HF	109.5	109.5	0
Diethanolamine	1.5	1.5	0
HCl	0	0	0

10. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m <sup>3</sup> )	Averaging Time	Highest Concentration (µg/m <sup>3</sup> )	% of NAAQS
PM <sub>10</sub>	230.2	50	Annual	2.75 <sup>1</sup>	5.5
		150	24-Hour	22.33 <sup>1</sup>	14.9
SO <sub>2</sub>	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 <sub>x</sub>	150.5	100	Annual	7.5	7.5

1. Emissions for the new PGA Bagging Baghouse (451BH0760), # 5 Storage Bin Dust Collector (400BH09), and the Nuisance Dust Collector (405BH1035) increased annual and 24-Hour concentrations by an additional 0.45 µg/m<sup>3</sup> and 2.03 µg/m<sup>3</sup>, respectively.

Non-Criteria Pollutants:

1<sup>st</sup> 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<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Formaldehyde	1.5	.17	.001	Y
Hydrogen Fluoride	2.45	0.27	58.1	N
Diethanolamine	2	.22	0.4	N

2<sup>nd</sup> 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 has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Hydrogen Fluoride	24.5	14.7	Y
Diethanolamine	20	0.1	Y

11. 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	Grain	Varied	Baghouse or	Varied	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
Scrubbers	Loading		Scrubber		
HF emissions from 405BH0133 and EP0233	Testing	915 lb HF per ton Aluminum Fluoride	N/A		

12. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
046BL01 thru 05	CO NO <sub>x</sub>	7E 10	Every 5 years	Department Guidance
405BH0133 405EP0233 060EP0241 425EP04 426EP06 426EP07	PM CO NO <sub>x</sub>	5 and 202 7E 10	Annual or Bi-annual	Department Guidance
405BH0133 405EP0233	HF	26	Annual or Bi-annual	Department Guidance
060BH0573	PM	5 and 202	Annual or Bi-annual	Department Guidance
426BH3314 405BH0134 451BH0760 400BH09 405BH1035	PM	5 or 17	Within 180 days of startup	NSPS Subpart LL

13. MONITORING OR CEMS

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

There are no monitoring or CEMs required by this permit.

14. RECORD KEEPING 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	Dc fuel usage	None	Monthly	N
415BH015 415BH011	Records of initial tests	None	Kept on site	N
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

15. OPACITY:

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

16. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	N/A

17. VOIDED, SUPERCEDED, OR SUBSUMED PERMITS:

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

Permit #
1527-AOP-R6

Permit #: 1527-AOP-R7

AFIN: 63-00010

Page 7 of 7

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

---

David Triplett, P.E.