

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1527-AOP-R16 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:

Franck Houenou

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Alumina Refining and Primary Aluminum Production
NAICS Code: 331313

5. SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
1/7/2016	Renewal	A number of permitted sources and insignificant activities have been removed and the facility is requesting to add eleven (11) new sources and one (1) insignificant activity
4/4/2016	Minor Modification	Reactivation and installation of baghouses

6. REVIEWER'S NOTES:

Almatis, Inc. located at 4701 Alcoa Road in Bauxite, AR operates an alumina refining facility. The facility submitted an application to renew the current Operating Title V Permit. With this renewal application, Almatis is removing a number of permitted sources and insignificant activities that are inactive or have been removed from the facility. Almatis is also requesting to

add a number of sources and one (1) insignificant activity that have been discovered during an environmental audit. The sources included eight baghouse that were installed between 1979 and 2005 for nuisance dust control. The baghouses do not decrease or increase potential production at the facility. The other three sources were a diesel tank, gasoline tank and an emergency generator. The additional emissions are under PSD review thresholds. In addition, Almatris is requesting to implement a bubbled emission rate for annual emissions of NO_x from four combustion sources in order to allow some operational flexibility. The total permitted emission rate limits changes associated with this modification include: -247.0 tpy PM/PM₁₀, - 4.3 tpy SO₂, -10.8 tpy VOC, -10.4 tpy CO, and -43.2 tpy NO_x.

7. COMPLIANCE STATUS:

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

The facility was last inspected on April 22, 2015 and records indicate emission sources were not visually inspected at least once per week as required by Plantwide Condition 7. Specifically, visual inspections were conducted on 06/25/2014 and not again until 07/08/2014; and conducted on 07/08/2014 and not again until 08/04/2014.

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 is not PSD.

There was only a reduction in emissions which did not trigger an evaluation. The added sources included eight baghouse that were installed between 1979 and 2005 for nuisance dust control. The baghouses do not decrease or increase potential production at the facility. The other three sources were a diesel tank, gasoline tank and an emergency generator. The additional emissions are under PSD review thresholds

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
EG405A01	NO _x and CO	NESHAP 40 C.F.R. Part 63 Subpart ZZZZ
EG405A01	NO _x and CO	NSPS 40 C.F.R. Part 60 Subpart JJJJ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

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?
Acrolein	0.23	0.025	0.01	Y
Chrysene	0.2	0.022	0.01	Y
Hydrogen Fluoride	0.41	0.045	58.1	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	24-HR Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Hydrogen Fluoride	4.1	19.04	N

Pollutant	Average Period	CA OEHHA REL ($\mu\text{g}/\text{m}^3$)	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Hydrogen Fluoride	1 Hour	240	59.23	Y
	Annual	14	2.3	Y

c) H₂S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards N
 If exempt, explain: No H₂S emission

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
405BH0133 and 405BH0133	Testing (for PM/PM ₁₀ , HF and NO _x) and AP-42, 1.4	PM/PM ₁₀ = 4.2 lb/hr SO ₂ = 0.6 lb/MMscf VOC = 5.5 lb/MMscf CO = 84 lb/MMscf NO _x = 19.6 lb/hr HF = 915 lb HF/ton AlF ₃	None	N/A	When recent stack testing show lower emission factors than the ones used to calculate emissions for the current permit, the facility requests to keep the old emission factors leading to higher emissions.
426BH06 and 426BH07	Testing (for PM/PM ₁₀ and NO _x) and AP-42, 1.4	PM/PM ₁₀ = 0.02 grains/dscf SO ₂ = 0.6 lb/MMscf VOC = 5.5 lb/MMscf CO = 21.90 lb/hr NO _x = 45.5 lb/hr	None	N/A	When recent stack testing show lower emission factors than the ones used to calculate emissions for the current permit, the facility requests to keep the old emission factors leading to higher emissions.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
71padGas	Tank 4.0.9d	VOC = 3.65 lb/hr	None	N/A	Emissions were estimated based on 12,000 gallons gasoline/year
71padDiesel	Tank 4.0.9d	VOC = 0.01 lb/hr	None	N/A	Emissions were estimated based on 12,000 gallons diesel/year
EG405A01	AP-42, 3.2	PM = 9.9E-03 lb/MMBtu PM ₁₀ = 7.71E-05 lb/MMBtu SO ₂ = 5.88E-04 lb/MMBtu VOC = 1.18E-01 lb/MMBtu CO = 5.57E-01 lb/MMBtu NO _x = 4.08 lb/MMBtu	None	N/A	Maximum of 500 hrs of operation per year
All other sources	Manufacturers	Varies	Baghouses	99.95%	Emissions were calculated using ACFM and loading (grains/cu.ft)

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
405BH0133, 405BH02133, 426BH06 and 426BH07	PM/PM10 CO NOx	201A 10 7E	Annually	Department guidance
405BH0133 and 405BH0233	HF	Method 26	Annually	Department guidance

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)
None				

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)
405BH0133 and 405BH0233	HF feed rate	127 lb/hr	Monthly	N
71padGas	Gasoline quantity	12,000 gal/year	Monthly	N
71padDiesel	Diesel quantity	12,000 gal/year	Monthly	N
EG405A01	Operation hours	500 hrs per calendar year	Monthly	N
400BH02, 400BH05, 400BH06, 400BH07, 400BH09, 405BH02, 405BH04, 405BH05, 405BH0133, 405BH0136, 405BH0308, 405BH0309,	Opacity	20%	Weekly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
405BH0310, 405BH0311, 405BH0312, 405BH0313, 405BH0605, 410BH02, 410BH05, 050BH07, 415BH0001 through 415BH0020, 420BH6194, 420BH6260, 420ABH7811, 425BH08, 426BH3317, 426BH3320, 426BH5044, 426BH5045 and 426BH7086				
055BH01, 055BH02, 055BH03, 405BH0233, 415BH0401, 415BH6192, 415BH6225, 415BH6227, 415BH6401, 415BH6451, 420BH05, 420BH06, 420BH6193, 420BH6194, 420BH7801, 420ABH7714, 420ABH7716, 426BH3311, 426BH3314, 426BH5015, 426BH5041, 426BH06, and 426BH07	Opacity	40%	Weekly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
400BH02, 400BH05, 400BH06, 400BH07, 400BH09, 405BH02, 405BH04, 405BH05,	20%	Department guidance	Annually

SN	Opacity	Justification for limit	Compliance Mechanism
405BH0136, 405BH0308, 405BH0309, 405BH0310, 405BH0311, 405BH0312, 405BH0313, 405BH0605, 410BH02, 410BH05, 050BH07, 415BH0001 through 415BH0020, 420BH6194, 420BH6260, 420ABH7811, 420BH08, 426BH3317, 426BH3320, 426BH5044, 426BH5045 and 426BH7086			
055BH01, 055BH02, 055BH03, 415BH0401, 415BH6192, 415BH6225, 415BH6227, 415BH6401, 415BH6451, 420BH05, 420BH06, 420BH6193, 420BH6194, 420BH7801, 420ABH7714, 420ABH7716, 426BH3311, 426BH3314, 426BH5015, 426BH5041, 426BH06, and 426BH07	40%	Department guidance	Annually

17. DELETED CONDITIONS:

Former SC	Justification for removal
#4, #6 through #9, #14, #18 through #23, #27, #28, #31 through #38	Sources have been removed or conditions were based on 40 C.F.R. Part 60 Subpart LL which is no longer applicable to facility

18. GROUP A INSIGNIFICANT ACTIVITIES:

19. Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Dump Chute, 5 from bins to ground along east side of Building 415	A-13							
Dump Chute, upper floors to dumpster in dock area on south end of Building 415	A-13							
Dump Chute, Building 415 railcars loading station to ground	A-13							
Dump Chute from second floor to ground, north side of Building 420A	A-13							
Dump Chute to contained area on northeast corner of Building 426 to converter wing	A-13							
Dump Chute to under bulk loading belt, south side of Building 426 in dock area	A-13							
Cooling Tower	A-13	0.01						

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20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1527-AOP-R15

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 08-26-15

Facility Name: Almatris, Inc
 Permit Number: 1527-AOP-R16
 AFIN: 63-00010

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	945.7
Permit Type	Modification	Permit Fee \$	1000

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-305.3
Initial Title V Permit Fee Chargeable Emissions (tpy)	

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		534.7	287.7	-247		
PM ₁₀		534.7	287.7	-247	-247	287.7
SO ₂		22	17.7	-4.3	-4.3	17.7
VOC		14.6	3.8	-10.8	-10.8	3.8
CO		235.5	225.1	-10.4		
NO _x		570.2	527	-43.2	-43.2	527
HF	<input checked="" type="checkbox"/>	109.5	109.5	0	0	109.5
Methylene Chloride	<input type="checkbox"/>	0	0.1	0.1		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Chrysene	<input type="checkbox"/>	0	0.1	0.1		