

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1527-AOP-R18 AFIN: 63-00010

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Almatis, Inc.
4701 Alcoa Road
Benton, Arkansas 72015

3. PERMIT WRITER:

Jesse Smith

4. NAICS DESCRIPTION AND CODE:

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

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

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
12/10/2020	Renewal	Added Benzene/HAP emissions to multiple sources 71padDiesel moved to IA list

6. REVIEWER'S NOTES:

Almatis, Inc., located at 4701 Alcoa Road in Bauxite, AR, operates an alumina refining facility. This permitting action is to renew the facility's Title V permit. During this renewal, HAP emissions were added for combustion and gasoline storage sources and the testing interval for the dryer and baghouse sources were changed from yearly to once per five years. Permitted emission changes are as follows: a decrease of 0.1 tpy VOC, an increase of 0.02 tpy Benzene, and an increase of 0.5 tpy Total Other HAPs.

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 April 28, 2021. There were no areas of concern noted during this inspection.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
If yes, were GHG emission increases significant? 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 for 8(b), explain why this permit modification is not PSD.

No increase in emissions. No significant changes made.

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. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? Y

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? Y

If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
Plantwide	40 C.F.R. 60 Subpart LL	Almatis no longer processes ore
405BH0133 405BH0233 426BH06 426BH07	40 C.F.R. 60 Subpart UUU	These sources associated with calciners or dryers were installed before April 23, 1986

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
400BH02, 400BH05, 400BH06, 400BH07, 400BH09, 405BH02, 405BH04, 405BH05, 405BH0308, 405BH0309, 405BH0310, 405BH0311, 405BH0312, 405BH0313, 405BH0605, 405BH0136, 410 BH02, 410BH05, 050BH07, 415BH0001 through 415BH0018, 420BH6194, 420BH6260, 420ABH7811, 420BH08,	PM PM ₁₀	Daily visible emission readings and opacity observations performed at each exhaust while the control device is in operation. Trained plant operators will perform the daily visible emission readings. Trained plant personnel will service and repair the systems on an as needed basis. Records will be kept of all daily visible emission readings.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
426BH3317		
426BH3320		
426BH5044		
426BH7086		
055BH01		
055BH02		
055BH03		
415BH0401		
415BH6192		
415BH6225		
415BH6227		
415BH6401		
415BH6451		
420BH05		
420BH06		
420BH6193		
420BH6194		
420BH7801		
420ABH7714		
420ABH7716		
426BH3311		
426BH3314		
426BH5015		
426BH5041		
426BH06		
426BH07		
405BH0233		
405BH0133		

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern. HF emissions did not change and so modeling results have been taken from 1527-AOP-R16.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality 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	0.2	0.022	0.01	Y
Benzene	1.6	0.176	0.20	N
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 Division of Environmental Quality 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?
Benzene	16	6.61	Y

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	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

Y

If exempt, explain: No H₂S emissions

15. 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	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

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		NO _x = 45.5 lb/hr			leading to higher emissions.
71padGas	Tank 4.0.9d	VOC = 3.65 lb/hr Benzene = 5% of VOC	None	N/A	Emissions were estimated based on 12,000 gallons gasoline/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)

16. 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 NO _x	201A 10 7E	Every 5 years	Department guidance
405BH0133 and 405BH0233	HF	Method 26	Every 5 years	Department guidance

17. 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)
N/A				

18. 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
055BH04, 405BH03	Opacity	5%	Weekly	N
400BH02, 400BH05, 400BH06, 400BH07, 400BH09, 405BH02, 405BH04, 405BH05, 405BH0133, 405BH0136, 405BH0308, 405BH0309, 405BH0310, 405BH0311, 405BH0312, 405BH0313, 405BH0605, 410BH02, 410BH05, 050BH07, 415BH0001 through 415BH0020, 420BH6194, 420BH6260, 420ABH7811, 425BH08, 426BH3317, 426BH3320, 426BH5044, 426BH5045 and 426BH7086	Opacity	20%	Daily	N
055BH01, 055BH02, 055BH03, 405BH0233, 415BH0401, 415BH6192, 415BH6225, 415BH6227, 415BH6401, 415BH6451, 420BH05, 420BH06, 420BH6193, 420BH6194, 420BH7801,	Opacity	40%	Daily	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
420ABH7714, 420ABH7716, 426BH3311, 426BH3314, 426BH5015, 426BH5041, 426BH06, and 426BH07				

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
055BH04, 405BH03	5%	Department Guidance	Annually
400BH02, 400BH05, 400BH06, 400BH07, 400BH09, 405BH02, 405BH04, 405BH05, 405BH0136, 405BH0308, 405BH0309, 405BH0310, 405BH0311, 405BH0312, 405BH0313, 405BH0605, 410BH02, 410BH05, 050BH07, 415BH0001 through 415BH0020, 420BH6194, 420BH6260, 420ABH7811, 420BH08, 426BH3317, 426BH3320, 426BH5044, 426BH5045 and 426BH7086	20%	Department Guidance	CAM Plan
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	CAM Plan

20. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
71padDiesel, 500 gal diesel storage tank	A-3			0.1				
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 comer 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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22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1527-AOP-R17

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Almatis, Inc.
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\$/ton factor	25.13	Annual Chargeable Emissions (tpy)	947
Permit Type	Renewal No Changes	Permit Fee \$	0

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 ☐

If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$ 0

Total Permit Fee Chargeable Emissions (tpy) -0.1

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		289.1	289.1	0		
PM ₁₀		289.1	289.1	0	0	289.1
PM _{2.5}		0	0	0		
SO ₂		17.7	17.7	0	0	17.7
VOC		3.8	3.7	-0.1	-0.1	3.7
CO		225.1	225.1	0		
NO _x		527	527	0	0	527
HF	<input checked="" type="checkbox"/>	109.5	109.5	0	0	109.5

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Benzene	<input type="checkbox"/>	0	0.02	0.02		
Total Other HAPs	<input type="checkbox"/>	0.1	0.6	0.5		