

ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 1527-AOP-R5

Renewal #1

IS ISSUED TO:

Almatis, Inc.

4701 Alcoa Road

Bauxite, AR 72011

Saline County

AFIN: 63-00010

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

AND

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Michael Bonds
Chief, Air Division

Date

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List of Acronyms and Abbreviations

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO _x	Nitrogen Oxide
PM	Particulate Matter
PM ₁₀	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO ₂	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

SECTION I: FACILITY INFORMATION

PERMITTEE: Almatris, Inc.

AFIN: 63-00010

PERMIT NUMBER: 1527-AOP-R5

FACILITY ADDRESS: 4701 Alcoa Road
Bauxite, AR 72011

MAILING ADDRESS: P.O. Box 300
Bauxite, AR 72011

COUNTY: Saline

CONTACT POSITION: Mike Glagola, Senior Environmental Specialist

TELEPHONE NUMBER: (501) 776-4931

REVIEWING ENGINEER: Shawn Hutchings

UTM North South (Y): Zone 15: 3825.7

UTM East West (X): Zone 15: 543.3

SECTION II: INTRODUCTION

Almatis, Inc located at 4701 Alcoa Road in Bauxite, AR is a manufacturer of various forms of alumina.

Summary of Permit Activity

This permit is the first Title V renewal for the facility. With the renewal several additional permit applications and minor modification applications were included into this permit. The changes in this permit are as follows. The sources 451BH02, 451TD01, 451TD02, 451TD03, and 451TD04 were removed from the permit as they are no longer in service. Hydrochloric acid emissions were removed from sources 405BH0133 and 405EP0233. The facility no longer uses hydrochloric acid in these sources. Sources 055BM01 and 060BH04 were added to the permit. In previous permits, sources 426EP06 and 426EP07 were permitted for continuous operation. However these sources annual emission rates for CO and NO_x did not correspond to continuous use rates. These rates were corrected adding approximately 120 tons of CO and 100 tons of NO_x to the permit.

This permit also incorporates a name change from Alcoa Industrial Chemicals to Almatis.

Each section in this permit is arranged by process area, and then broken down by building for point sources. Each point source at the facility has been given a unique identifier (SN Number) using a consistent format. Each alpha-numeric identifier begins with the building number, followed by a 2 or 4 digit numeric code establishing the identity of each source. The 2-letter codes used to identify each source type may indicate the type of control equipment used to control emissions or a type of combustion source without control equipment. The codes are BH-baghouse, CY-cyclone, EP-electrostatic precipitator, SB-scrubber, AV-activator, TD-tunnel dryer, and BL-boiler. Nomenclature for insignificant sources is consistent with that found in the Insignificant Source list in this permit.

A summary of testing requirements can be found in Appendix A. The opacity survey form can be found in Appendix B.

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective February 15, 1999
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective December 19, 2004
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002

40 CFR 52.21 Prevention of Significant Deterioration.
40 CFR Part 60 Subpart UUU, <i>Standards of Performance for Calciners and Driers in the Mineral Industry</i>
40 CFR Part 60 Subpart Dc, <i>Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units</i>

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

Emission Summary

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	228.7	892.5
		PM ₁₀	227.2	885.6
		SO ₂	9.6	40.2
		VOC	109.6	60.9
		CO	79.1	344.9
		NO _x	156.5	685.2
HAPs		Formaldehyde*	0.01	0.03
		Hydrogen Fluoride	116.2	109.5
		Diethanolamine*	0.4	1.5
SN	Description	Pollutant	lb/hr	tpy
Hydrate Chemicals				
045BH69	BV-69 Alumina Storage Dust Collector	PM	0.1	0.1
		PM ₁₀	0.1	0.1
045BH70	BV-70 Alumina Storage Dust Collector	PM	0.1	0.1
		PM ₁₀	0.1	0.1
045BH87	Magnesium Oxide Storage Dust Collector	PM	0.1	0.2
		PM ₁₀	0.1	0.2
045BH88	Quick Lime Storage Dust Collector	PM	0.1	0.2
		PM ₁₀	0.1	0.2

046BL01	#1 Package Boiler	PM PM ₁₀ SO ₂ VOC CO NO _x	0.3 0.3 0.1 0.3 3.3 3.9	1.3 1.3 0.1 1.0 14.4 17.1
046BL02	#2 Package Boiler	PM PM ₁₀ SO ₂ VOC CO NO _x	0.3 0.3 0.1 0.3 3.3 3.9	1.3 1.3 0.1 1.0 14.4 17.1
046BL03	#3 Package Boiler	PM PM ₁₀ SO ₂ VOC CO NO _x	0.3 0.3 0.1 0.3 3.3 3.9	1.3 1.3 0.1 1.0 14.4 17.1
046BL04	#4 Package Boiler	PM PM ₁₀ SO ₂ VOC CO NO _x	0.3 0.3 0.1 0.3 3.3 3.9	1.3 1.3 0.1 1.0 14.4 17.1
046BL05	#5 Package Boiler	PM PM ₁₀ SO ₂ VOC CO NO _x	0.3 0.3 0.1 0.3 3.3 3.9	1.3 1.3 0.1 1.0 14.4 17.1
400BH01	#5 Storage Bin Dust Collector	PM PM ₁₀	0.6 0.6	2.8 2.8
400BH02	Bulk Loading Dust Collector	PM PM ₁₀	1.1 1.1	4.8 4.8
400BH03	#2 Storage Tank Dust Collector	PM PM ₁₀	1.4 1.4	6.0 6.0
400BH04	#1 Storage Tank Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0

400BH05	#3A Storage Tank Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0
400BH06	#3B Storage Tank Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0
400BH07	#4 Storage Tank Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0
400BH08	#1 Rework Tank Dust Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
400SB01	#1 Dryer	PM PM ₁₀	0.7 0.7	3.1 3.1
400SB02	#2 Dryer	PM PM ₁₀	0.7 0.7	3.1 3.1
400SB03	#3 Dryer	PM PM ₁₀	0.7 0.7	3.1 3.1
410BH01	#1 Dust Collector	PM PM ₁₀	0.6 0.6	2.3 2.3
410BH02	#2 Mikro Pulsaire Dust Collector	PM PM ₁₀	0.6 0.6	2.3 2.3
410BH03	Nuisance Dust, #3 Grinding	PM PM ₁₀	0.2 0.2	0.9 0.9
410BH04	Bin Vent #1 Feed Tank	PM PM ₁₀	0.1 0.1	0.1 0.1
410BH05	Bin Vent #2 Feed Tank	PM PM ₁₀	0.1 0.1	0.1 0.1
410BH06	#2 Product Tank Dust Collector	PM PM ₁₀	0.3 0.3	1.2 1.2
451BH01	Lubral Mixer Dust Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
451BH03	H-700 Dust Collector	PM PM ₁₀	0.3 0.3	1.2 1.2
451BH04	Ground Gel Collector	PM PM ₁₀	0.3 0.3	1.2 1.2

451BH05	Spray Dryer Nuisance Dust Collector	PM PM ₁₀	0.5 0.5	1.9 1.9
451BH06	Hydral Bulk Loading Nuisance Dust Collector	PM PM ₁₀	0.2 0.2	0.8 0.8
451BH07	PD Nuisance Dust Collector	PM PM ₁₀ SO ₂ VOC CO NO _x	0.5 0.5 1.0 0.1 0.3 0.3	1.9 1.9 4.4 0.1 1.0 1.1
451BH08	Spacerite Feed Tank Dust Collector	PM PM ₁₀	0.2 0.2	0.9 0.9
451BH09	Spacerite Product Tank Collector	PM PM ₁₀	0.2 0.2	0.8 0.8
451BH010	CX200S Nuisance Dust Collector	PM PM ₁₀	0.8 0.8	3.5 3.5
451BH011	Auxiliary Spray Dryer D/C	PM PM ₁₀ SO ₂ CO NO _x	1.3 1.3 1.0 0.3 0.3	5.6 5.6 4.4 1.1 1.3
451BH014	H-700 Spray Dryer Dust Collector	PM PM ₁₀ SO ₂ CO NO _x	5.1 5.1 1.0 0.8 0.9	21.9 21.9 4.4 3.3 3.9
451BH011	Auxiliary Spray Dryer D/C	VOC Formaldehyde	52.1 0.01	40 0.05
451BH014	H-700 Spray Dryer Dust Collector			
451BH012	#4 Bin Vent Dust Collector	PM PM ₁₀	0.6 0.6	2.5 2.5
451BH013	Auxiliary Spray Dryer Nuisance Dust Collector	PM PM ₁₀	0.1 0.1	0.5 0.5

451BH015	Flash Dryer	PM PM ₁₀ SO ₂ VOC CO NO _x	4.0 2.5 0.1 0.1 1.4 1.6	17.8 10.9 0.1 0.4 5.9 7.1
451BH016	Pump Surge Hopper Baghouse	PM PM ₁₀	0.1 0.1	0.1 0.1
Calcined Aluminas				
050BH07	#1 Dust Collector	PM PM ₁₀	0.7 0.7	2.8 2.8
051BH03	#3 Bin Vent Dust Collector	PM PM ₁₀	0.1 0.1	0.2 0.2
051BH04	#4 Bin Vent Dust Collector	PM PM ₁₀	0.1 0.1	0.2 0.2
051BH06	#1 Air Slide Dust Collector	PM PM ₁₀	0.6 0.6	2.3 2.3
051BH07	#3 Air Slide Dust Collector	PM PM ₁₀	0.6 0.6	2.3 2.3
051BH08	#2 Air Slide Dust Collector	PM PM ₁₀	0.6 0.6	2.3 2.3
051BH11	Unloading Hopper Airlide Dust Collector	PM PM ₁₀	0.1 0.1	0.5 0.5
055BH01	#1 Blender Dust Collector	PM PM ₁₀	1.7 1.7	7.5 7.5
055BH02	#2 Blender Discharge Dust Collector	PM PM ₁₀	0.6 0.6	2.8 2.8
055BH03	Nuisance Dust Collector	PM PM ₁₀	1.1 1.1	4.7 4.7
055BM01	Batch Ball Mill	VOC Diethanolamine	2.5 0.4	11.0 1.5
405BH03	Building 405B Nuisance Dust Collector	PM PM ₁₀	0.2 0.2	0.7 0.7

405BH04	#4 Alumina Transport Dust Collector	PM PM ₁₀	0.7 0.7	2.8 2.8
405BH05	#5 Alumina Transport Dust Collector	PM PM ₁₀	0.7 0.7	2.8 2.8
405BH06	#6 Alumina Transport Dust Collector	PM PM ₁₀	0.7 0.7	2.8 2.8
405BH0308	#1 Blender Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
405BH0309	#2 Blender Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
405BH0310	#1 High Tank Dust Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
405BH0312	#1 Lift System Dust Collector	PM PM ₁₀	0.5 0.5	2.2 2.2
405BH0133	#1 Baghouse	PM PM ₁₀ SO ₂ VOC CO NO _x HF	14.6 14.6 1.0 0.2 3.7 19.6 58.1	64.0 64.0 4.4 0.9 16.1 85.8 109.5
405EP0233	#2 ESP	PM PM ₁₀ SO ₂ VOC CO NO _x HF	25.0 25.0 1.0 0.2 3.7 19.6 58.1	109.5 109.5 4.4 0.9 16.1 85.8 109.5
415BH0401	415-7 Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0
415BH0402	415-8 Dust Collector	PM PM ₁₀	0.2 0.2	1.0 1.0
415BH6191	415-4 Dust Collector	PM PM ₁₀	1.0 1.0	4.2 4.2
415BH6192	415-11 Dust Collector	PM PM ₁₀	1.3 1.3	5.8 5.8

415BH6201	#1 3W1 Mini-Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
415BH6202	#2 3W1 Mini Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
415BH6203	#1 3W2 Mini Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
415BH6204	#2 3W2 Mini Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
415BH6225	415-9 Dust Collector	PM PM ₁₀	0.5 0.5	2.3 2.3
415BH6227	415-10 Dust Collector	PM PM ₁₀	0.3 0.3	1.2 1.2
415BH6401	415-12 Dust Collector	PM PM ₁₀	0.5 0.5	2.1 2.1
415BH6451	415-6 Dust Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
420BH05	#1 Bagging Dust Collector	PM PM ₁₀	0.2 0.2	0.9 0.9
420BH06	#2 Bagging Dust Collector	PM PM ₁₀	0.2 0.2	0.9 0.9
420BH6193	#1 Air Slide Vent Dust Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
420BH6194	#2 Air Slide Vent Dust Collector	PM PM ₁₀	0.2 0.2	0.7 0.7
420BH6260	420-4 Flex Kleen Dust Collector	PM PM ₁₀	2.4 2.4	10.2 10.2
420BH7614	420-3 Dust Collector	PM PM ₁₀	0.3 0.3	1.3 1.3
420BH7801	420-5 Bulk Loading Dust Collector	PM PM ₁₀	0.5 0.5	2.1 2.1
420ABH7714	420A-2 Coarse Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1

420ABH7716	420A-3 Fines Dust Collector	PM PM ₁₀	0.4 0.4	1.8 1.8
420ABH7810	Norblo XFER Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1
420ABH7811	#7 Product Tank Dust Collector	PM PM ₁₀	0.3 0.3	1.4 1.4
420ABH7851	Majac Dust Collector	PM PM ₁₀	1.0 1.0	4.4 4.4
Calcium Aluminate Cement				
060BH04	Pelletization Feed Tanks	PM PM ₁₀	0.4 0.4	1.8 1.8
060BH0285	Raw Mix Dust Collector	PM PM ₁₀	0.7 0.7	2.8 2.8
060BH0402	#3 A3 Tank Dust Collector	PM PM ₁₀	0.7 0.7	3.0 3.0
060BH0406	#4 Dust Collector	PM PM ₁₀	0.3 0.3	1.0 1.0
060BH0510	#3A Surge Tank Dust Collector	PM PM ₁₀	0.3 0.3	1.0 1.0
060BH0528	#3B Surge Tank Dust Collector	PM PM ₁₀	0.4 0.4	1.5 1.5
060BH0573	Clinker Dust Collector	PM PM ₁₀	1.4 1.4	6.0 6.0
060BH0602	#2 Surge Tank Dust Collector	PM PM ₁₀	0.6 0.6	2.4 2.4
060EP0241	#2 Kiln ESP	PM PM ₁₀ SO ₂ VOC CO NO _x	20.0 20.0 1.0 0.2 6.0 22.5	87.6 87.6 4.4 0.8 26.1 98.5
435BH0712	Packaging Tank #3 & #4 Dust Collector	PM PM ₁₀	0.2 0.2	0.8 0.8

435BH0754	Posi Bin #3 and #4	PM PM ₁₀	0.2 0.2	0.8 0.8
435BH0760	#5 Blender Dust Collector	PM PM ₁₀	0.1 0.1	0.2 0.2
435BH0770	Production Tank #4	PM PM ₁₀	0.1 0.1	0.2 0.2
Tabular				
425AUC01	Bulk Loading Station (trucks) beneath 425A Dense Phase Pump feed tank	PM PM ₁₀	0.2 0.2	0.9 0.9
425BH01	Low Iron Tabular	PM PM ₁₀	0.5 0.5	2.1 2.1
425BH02	High Iron Tabular	PM PM ₁₀	1.5 1.5	6.4 6.4
425BH03	Ground Ore Collection	PM PM ₁₀	1.0 1.0	4.2 4.2
425BH04	Dust Collector 4th Floor	PM PM ₁₀	0.5 0.5	2.3 2.3
425BH05	#2 Flex-Kleen Dust Collector	PM PM ₁₀	2.4 2.4	10.5 10.5
425BH06	#1 Ceramic Mill Dust Collector	PM PM ₁₀	2.4 2.4	10.5 10.5
425BH07	425A DPP Collector	PM PM ₁₀	0.4 0.4	1.5 1.5
425BH08	T-1 Mill Dust Collector	PM PM ₁₀	0.3 0.3	1.3 1.3
425BH09	#2, 3, 4 Ground Ore Bin Vents Dust Collector	PM PM ₁₀	0.4 0.4	1.4 1.4
425BH1003	325 Tabular Ceramic Mill	PM PM ₁₀	0.6 0.6	2.5 2.5
425BH1037	Ground Ore Dust Collector	PM PM ₁₀	0.7 0.7	3.0 3.0

425BH3343	8th Floor Flex-Kleen Dust Collector	PM PM ₁₀	1.5 1.5	6.4 6.4
425EP04	#8 Converter/Dryer	PM PM ₁₀ SO ₂ VOC CO NO _x	23.0 23.0 1.0 0.2 2.6 10.0	100.7 100.7 4.4 0.6 11.5 43.8
426BH1032	#2 Ceramic Mill Dust Collector	PM PM ₁₀	0.8 0.8	3.5 3.5
426BH1035	#8 Ball Former Dust Collector	PM PM ₁₀	0.3 0.3	1.1 1.1
426BH1045	#3 Ceramic Mill Dust Collector	PM PM ₁₀	1.4 1.4	6.0 6.0
426BH3311	#1 Tabular Dust Collector	PM PM ₁₀	1.4 1.4	6.1 6.1
426BH3314	#2 Tabular Dust Collector	PM PM ₁₀	1.4 1.4	6.1 6.1
426BH3317	#3 Tabular Dust Collector	PM PM ₁₀	2.2 2.2	9.6 9.6
426BH3320	#4 Tabular Dust Collector	PM PM ₁₀	2.2 2.2	9.6 9.6
426BH5015	Ground Ore Dust Collector	PM PM ₁₀	1.3 1.3	5.6 5.6
426BH5041	Unground Ore Dust Collector	PM PM ₁₀	1.3 1.3	5.6 5.6
426BH5044	12-1 Bin Dust Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
426BH5045	Bulk Loading Dust Collector	PM PM ₁₀	0.1 0.1	0.1 0.1
426BH7086	Boric Acid Collector	PM PM ₁₀	0.3 0.3	1.1 1.1

426EP06	#11 & #12 Converter/Dryer	PM	23.0	100.7
		PM ₁₀	23.0	100.7
		SO ₂	1.0	4.4
		VOC	0.2	0.6
		CO	21.9	95.9
		NO _x	31.1	136.2
426EP07	#13 & #14 Converter/Dryer	PM	23.0	100.7
		PM ₁₀	23.0	100.7
		SO ₂	1.0	4.4
		VOC	0.2	0.6
		CO	21.9	95.9
		NO _x	31.1	136.2
Electronic Packaging				
141BH01	Milled Product Collector Building 141	PM	0.3	1.2
		PM ₁₀	0.3	1.2
141BH02	Glass Frit/Fines Collectors	PM	0.6	2.6
		PM ₁₀	0.6	2.6
141BH03	Nuisance Collector	PM	1.3	5.6
		PM ₁₀	1.3	5.6
141BH04	Mill Feed Tank Collector	PM	0.1	0.2
		PM ₁₀	0.1	0.2
141BH05	#1 Classifier Collector	PM	0.1	0.3
		PM ₁₀	0.1	0.3
141BH06	#2 Classifier Collector	PM	0.1	0.1
		PM ₁₀	0.1	0.1
Miscellaneous Sources				
MISC	Storage Piles and Haul Roads	PM	22.2	3.7
		PM ₁₀	22.2	3.7

*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

SECTION III: PERMIT HISTORY

Permit 328-A was issued on 3/24/76 for installation of a 305 MMBtu/hr boiler which could burn either natural gas or fuel oil.

Permit 394-A was issued on 1/28/77 for installation of three dust collectors in new cement production facility.

Permit 417-A was issued on 7/22/77 for installation of a cyclone and a baghouse in building 70 for the F-100 pilot plant.

Permit 583-A was issued on 11/16/79 for installation of a ballformer mill in the tabular process.

Permit 606-A was issued on 4/4/80 for installation of three dust collectors in building 50 for the calcination process, two dust collectors in the cement production process in building 60, and two dust collectors in the tabular process, building 426, for control of fugitive emissions.

Permit 621-A was issued on 5/23/80 for installation of three wet scrubbers on the hydrate drying in building 400.

Permit 626-A was issued on 8/21/81 for the installation of a ceramic mill to grind tabular alumina in building 426.

Permit 665-A was issued on 8/21/81 to replace an old dust collector in building 106 with a newer, more efficient dust collector.

Permit 666-A was issued on 8/21/81 for the installation of eight new dust collectors to replace one bigger collector in building 51, and for the installation of a new dust collector in building 60.

Permit 738-A was issued on 5/25/84 for the installation of a new limestone crushing facility controlled with a baghouse. They also replaced scrubber with an electrostatic precipitator on the bauxite calcining process. This process originally calcined lime, but was converted to bauxite.

Permit 861-A was issued on 12/28/87 for the consolidation of 29 air permits which were issued to Alcoa since 1972.

Permit 861-AR-1 was issued on 2/27/90 for producing A4000SG in building 141. This process was never put into operation, however.

Permit 861-AR-2 was issued on 8/20/90 for adding a bin vent dust collector, a process dust collector, and a railcar unloading station.

Permit 861-AR-3 was issued on 1/23/91 for the addition of a process to produce Spacerite S-11, a paint additive.

Permit 1325-A was issued on 6/1/92 to expand the tabular process in building 425. A separate permit number was started so that the consolidation of permit 861 and 1437 would not hold up this process change.

Permit 1325-AR-1 was issued on 9/18/92 for additional process equipment in building 426 which consisted of an un-ground ore dust (calcined alumina) collection system.

Permit 1325-AR-2 was issued on 11/13/92 to improve housekeeping in calcined alumina process by using 20 collection points instead of 18.

Permit 1437-A was issued on 1/5/93 for the EHS Department.

Permit 1325-AR-3 was issued on 5/25/93 to increase collection points on screened tabular from 21 to 32 to reduce product loss.

Permit 1325-AR-4 was issued on 7/8/93 to relocate the #7 product tank in building 50 to building 420-A.

Permit 1325-AR-5 was issued on 9/15/93.

Permit 1325-AR-6 was issued on 2/4/94 for changes to the #4 Blender dust collection, and to relocate #1 Bin Vent dust collector from building 51 to building 435.

Permit 861-AR-4 was issued on 2/8/96 for the installation of six new package boilers. Boiler #3 and #4 were permanently shut down in order to net out of PSD review.

Permit 1527-A was issued on 12/16/97 for the purpose of consolidating the three permits into one. This permit also contained language that gives Alcoa the flexibility to make certain modifications to the baghouses without triggering a permit modification procedure. This permit also addressed the issue of hydrogen fluoride emission rates which were previously unpermitted.

Permit 1527-AOP-R0 was the first Title V permit for this facility and was issued on April 21, 1999. The physical changes from permit 1527-A included: installation of a dust collector on the hydal bulk loading belt in Building 451; relocation of a dust collector from a dense phase pump which assisted in the transfer of alumina from the Tabular Plant to the Sinter Plant, to building 425; installation of a dust collector on the hydal bulk loading belt; replacement of baghouses 415BH6191 and 415BH6192 with two more efficient baghouses; and a change in the routing of the baghouse ductwork in building 415. Also, according to a memo from John Rasnic, Director of Manufacturing, Energy and Transportation Division Office of Compliance of the EPA to all EPA Regional Directors, Alcoa is not required to operate continuous opacity monitors at 451BH011 as originally required because the emission rate of particulate matter is less than 25 tons per year. This memo was written to address NSPS Subpart UUU requirements for opacity monitors. Thus, the opacity monitoring requirements at source 451BH011 were deleted from the permit.

Permit 1527-AOP-R1 was issued on February 2, 2000. This permit revision addressed three items: 1) modification of baghouse 055BH03 to increase the air flow rate by 200 cfm, and adding a new pick-up point to control an existing source of particulate; 2) the addition of Hydrochloric Acid emissions to sources 405EP0133 and 405EP0233 to account for existing emissions previously not addressed; and 3) the addition of a new product which resulted in VOC emissions from a spray dryer controlled by baghouse 451BH011.

Permit 1527-AOP-R2 was issued on January 30, 2001. This modification to Alcoa's permit brought two baghouses back on-line which were previously taken out of service and changes emission rates for one of the kilns. The two baghouses are 050BH07 and 051BH08, and were being added to the Calcined Alumina Sources. Alcoa also changed the emission rates for 060EP0241 in the Calcium Aluminate section of this permit. In testing, Alcoa approached the permitted limits for this kiln and is adjusting their potential to ensure future compliance with their air permit.

Permit 1527-AOP-R3 was issued on May 22, 2001. This modification added a new flash dryer, SN-451BH015. The new dryer is subject to NSPS Subpart UUU. Alcoa is now also using CO₂ injection instead of HCl leaching in the Calcined Aluminas Production Process. Alcoa wishes to leave HCl emissions in the permit to allow them to change between the two systems at a future date. The HCl testing requirements have been changed to within 60 days of the date HCl usage is resumed. Also the AlF₃ feed rate for 405EP0133 and 405EP0233 were lowered due to new emission factors. The emission limits for these sources were unchanged.

An Administrative Amendment to 1527-AOP-R3 was issued on September 17, 2001. This amendment included the following changes: The emission totals for 451BH015 were updated to match the limits in Specific Conditions 1 and 2 of the permit, the PM emissions for this source were also corrected from 8.6 to 8.8 tpy, and source 141BH05 was added to Specific Conditions 33 and 34. The source, 141BH05, was included in the emission summary and had compliance conditions. It, however, had no emission limits in a Specific Condition. In addition to these changes, the totals in the emission summary table were updated to correct values including the changes of this amendment.

Permit 1527-AOP-R4 was issued to Alcoa on 7-25-02. This permit modification allowed Alcoa to return to its original feed rate of aluminum fluoride in sources 405EP0133 and 405EP0233. This will increase hourly emissions of hydrogen fluoride. Alcoa requested the same annual limits for these sources. A plantwide condition was inadvertently removed in a previous permit. This condition allowed for testing of some sources every two years. This condition was replaced.

An insignificant source was added as an administrative amendment during the comment period of the permit. This insignificant source is four small baghouses which will exhaust sources from Building 426. Total emissions from these baghouses are estimated at 2.25 tons per year.

SECTION IV: SPECIFIC CONDITIONS

HYDRAL PRODUCTS

WHITE HYDRATE PRODUCTION PROCESS BUILDINGS 44, 45, 46, 400, 410, 450 AND 451

The White Hydrate Process begins with preparation of a supersaturated sodium aluminate solution via a pressure digest process. This digest process includes aluminum trihydrate receipt and preparation, pressure digestion, liquor purification, and recovered liquor processing. Steam is utilized for several of the process steps and is supplied by natural gas-fired package boilers located in Building 46.

The pressure digest process takes place at Building 45. Regular smelting-grade alumina trihydrate wet cake is received by truck and stored in covered tanks to provide about a two-week supply. When ready to be used, the wet cake is slurried in a spent (recovered) sodium aluminate pressure digester vessel along with additional spent liquor to achieve the proper solids to liquor ratio. This mixture is heated using steam, held for about ten minutes, and then flashed back down to atmospheric temperatures and pressures. The flashing steam is reused to heat the incoming feed slurry.

As the sodium aluminate is being pumped from the digester, magnesium oxide is added to the solution as an impurity removal agent. After a holding time, solids are removed by pressure filtration. Solids are periodically removed from the filter as a moist cake and are hauled off site. The purified liquor is cooled (via heat exchangers) using previously recovered liquor as the cooling medium. This purified, supersaturated liquor is then surged for feed to the hydrate precipitation process or to the hydral precipitation process. The final step to the digest process is the processing of the recovered effluent liquors from the hydrate and hydral processes into reusable spent liquor. This recovery process removes carbon dioxide and water, removes trihydrate solids not recovered by the hydrate and hydral processes, and adds make-up sodium hydroxide to compensate for losses to waste materials.

Water is primarily introduced into the processes via a water softener, lake water and by rain. One evaporator (Building 44) removes this water and maintains the concentration of the liquor stream.

The hydrate area precipitates aluminum trihydrate (ATH) into two basic products. They are C-31 and C-31 Coarse. C-31 is the primary product. C-31 Coarse has about the same properties as C-31, except the median particle size is larger.

The ATH product is stored in the primaries and sent to the hydrate drying facility (Building 400) for further processing. There, the slurry is pumped to a horizontal pan filter where a vacuum is applied to the bed of material. The ATH is de-liquored and washed with condensate water to remove soluble soda. The filtrates from this step are returned to the process liquor stream. From the filter, hydrate goes into a fluidized bed steam dryer, discharges across a derrick screen, and is dense phase pumped into product bins for storage. The fluidizing air, along with fine dust, exits the dryer through two cyclones operating in series and then goes through a venturi scrubber. The clean air then discharges through an induced draft fan to the atmosphere. Each of the product bins has its own bin vent dust collector to facilitate the operation of the dense phase pumping system. The product can be either bulk loaded or bagged out of the product bins. Each of these systems has its own baghouse dust collection equipment.

Ground ATH is also produced at the plant site (Building 410). The material is transported into feed tanks from Building 400 and then fed into ball mills. Particle size is controlled in the ball mills to make various-sized products. The feed and product bins all have baghouse collectors to catch any ATH fines.

Note: Bauxite Kiln was shut down in 1985.

HYDRAL PRODUCTION PROCESS BUILDINGS 45, 435, 450 AND 451

Hydral is a very fine, precipitated ATH. The material has a nominal particle size diameter of 1.0 micron and a very uniform particle size distribution. Hydral is manufactured primarily into PGA, H-710, a family of ground products in the 0.25-0.8 median micron range and variations of these products. Hydral is used by the paper, rubber, paint and plastics industries as a filler, coating material and fire retardant.

Hydral is precipitated from seeding a supersaturate sodium aluminate liquor. The liquor is manufactured by a pressure digest process (as described in the process description for White Hydrate).

Sodium aluminate liquor, made and surged at Building 45, is pumped into batch precipitator tanks under a controlled temperature. A controlled quantity of seed is added to the tank. The tank contents are mixed and aged before further processing.

Further processing consists of de-liquoring the precipitated hydral-sodium aluminate slurry. Liquor is removed by vacuum filtering and washing, using condensate from the wet stream

evaporators. The filtrate (a combination of sodium aluminate liquor and wash water) is removed continuously and finally returned to the wet process for recycling.

The washed filter cake is then ready to be dried. Drying is accomplished on one of three dryers.

- Flash dryer – primarily used to dry H-710
- #1 Spray dryer- primarily used to dry PGA
- #2 Spray dryer- primarily used to dry ground products

In the Flash Drying process, filter cake is transported to the dryer, backmixed with dry powder, fed into the dryer and dried with direct-fired natural gas. Pulverization takes place in the dryer as it is dried. The dried product is then transported in a dilute phase to a product collector and discharged into the product bins. The product is then conveyed to B435 for packaging. The exhaust from this drying process exits via a duct on the south side of the hydral building.

In the spray-drying process, a dispersant is added to the filter cake to liquefy the Hydral into a slurry. This Hydral is then pumped to the spray dryer surge tank. From the spray dryer surge tank, the slurry is pumped to the spray dryer feed tank via a wet screen used to remove grit. Once in the feed tank, the slurry is gravity-fed into the spray dryer chamber. The dried PGA exits the spray dryer in two ways:

- From the coned bottom of the dryer chamber; and
- With the hot combustion gasses.

The hot gasses exit the spray dryer through a duct to the product dust collector where the product solids are removed from the gas stream. The gas stream is exhausted from the collector to the atmosphere via an ID fan located on the top floor of the spray dryer tower.

The solids, which were removed by the product collector, are combined with the solids from the dryer cone in the product elevator and discharged to an air slide conveying system and into one of three product tanks. The PGA is bulk loaded into rail cars for transport to offsite packaging. The product elevator, air slides, bins, etc., are vented to the same product collector.

The #2 spray dryer is much smaller than the #1 spray dryer. It has the same process flow as the #1 spray dryer except through smaller equipment. The filter cake in this process normally has an intermediate grinding process prior to drying which makes the smaller sized products. This dryer is located outside the building.

- Tunnel dried products, and
- Spray dried products.

In the tunnel dried product stream, the hydral is screened, filtered, and discharged onto a moving steel conveyor. The conveyor takes the wet filter cake through two drying chambers called a pre-dryer and a final dryer. Both chambers are heated by burning natural gas. The hot gasses are first circulated inside the dryer chambers and then to the atmosphere via exhaust fans and stacks located on the roof. There is one stack for each tunnel dryer unit. The dryer exhaust consists of the pre-dryer and final dryer combustion gasses. The dried product is discharged from the dryer into screw conveyers and an elevator which takes the material to the top of the building.

At the top of the building, the tunnel dried material is discharged through a pulverizer, across a permanent magnet and into storage bins. The material is loaded for shipment to customers. All of the above mentioned equipment and conveying systems, including the product bins, are vented to a common nuisance dust collector which is exhausted to the atmosphere via a blower. The blower stack is located on the roof near the tunnel dryer combustion exhaust stacks.

The spray dried product stream begins where the slurry is dewatered. The filter discharge cake is reslurried by remixing in the presence of a dispersant. The reslurried hydral is pumped to the spray dryer surge tank for storage. From the spray dryer surge tank, the slurry is pumped to the spray dryer feed tank. Once in the feed tank, the slurry is fed into the spray dryer chamber. The dried PGA exits the spray dryer in two ways:

- From the coned bottom of the dryer chamber, and
- With the hot combustion gasses.

The hot gasses exit the spray dryer through a duct to the product dust collector where the product solids are removed from the gas stream. The gas stream is exhausted from the collector to the atmosphere via an ID fan located on the top floor of the spray dryer tower.

The solids which were removed by the product collector are combined with the solids from the dryer cone in the product elevator and discharged to an air slide conveying system and into one of three product tanks. The PGA is bagged or bulk loaded for distribution to customers. The product elevator, air slides, bins, etc. are vented to a nuisance dust collector which exhausts to the atmosphere inside the building on the top floor of the spray dryer tower.

Pursuant to a memo from John Rasnic, Director of Manufacturing, Energy and Transportation Division Office of Compliance of the EPA to all EPA Regional Directors, and in the preamble to Subpart UUU, Alcoa is not required to operate continuous opacity monitors at 451BH011 because the emission rate of particulate matter is less than 25 tons per year. This memo was written to address NSPS Subpart UUU requirements for opacity monitors.

Specific Conditions

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- The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 4, 5, and 8 and Plantwide Condition 5. [Regulation 19, §19.501 et seq., effective December 19, 2004 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
045BH69	PM ₁₀	0.1	0.1
045BH70	PM ₁₀	0.1	0.1
045BH87	PM ₁₀	0.1	0.2
045BH88	PM ₁₀	0.1	0.2
046BL01	PM ₁₀	0.3	1.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	3.3	14.4
	NO _x	3.9	17.1
046BL02	PM ₁₀	0.3	1.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	3.3	14.4
	NO _x	3.9	17.1
046BL03	PM ₁₀	0.3	1.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	3.3	14.4
	NO _x	3.9	17.1
046BL04	PM ₁₀	0.3	1.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	3.3	14.4
	NO _x	3.9	17.1
046BL05	PM ₁₀	0.3	1.3
	SO ₂	0.1	0.1
	VOC	0.3	1.0
	CO	3.3	14.4
	NO _x	3.9	17.1
400BH01	PM ₁₀	0.6	2.8
400BH02	PM ₁₀	1.1	4.8

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400BH03	PM ₁₀	1.4	6.0
400BH04	PM ₁₀	0.2	1.0
400BH05	PM ₁₀	0.2	1.0
400BH06	PM ₁₀	0.2	1.0
400BH07	PM ₁₀	0.2	1.0
400BH08	PM ₁₀	0.1	0.1
400SB01	PM ₁₀	0.7 0.7	3.1 3.1
400SB02	PM ₁₀	0.7	3.1
400SB03	PM ₁₀	0.7	3.1
410BH01	PM ₁₀	0.6	2.3
410BH02	PM ₁₀	0.6	2.3
410BH03	PM ₁₀	0.2	0.9
410BH04	PM ₁₀	0.1	0.1
410BH05	PM ₁₀	0.1	0.1
410BH06	PM ₁₀	0.3	1.2
451BH01	PM ₁₀	0.1	0.1
451BH03	PM ₁₀	0.3	1.2
451BH04	PM ₁₀	0.3	1.2
451BH05	PM ₁₀	0.5	1.9
451BH06	PM ₁₀	0.2	0.8
451BH07	PM ₁₀ SO ₂ VOC CO NO _x	0.5 1.0 0.1 0.3 0.3	1.9 4.4 0.1 1.0 1.1
451BH08	PM ₁₀	0.2	0.9
451BH09	PM ₁₀	0.2	0.8
451BH010	PM ₁₀	0.8	3.5

451BH011	PM ₁₀	1.3	5.6
	SO ₂	1.0	4.4
	CO	0.3	1.1
	NO _x	0.3	1.3
451BH014	PM ₁₀	5.1	21.9
	SO ₂	1.0	4.4
	CO	0.8	3.3
	NO _x	0.9	3.9
451BH011 451BH014	VOC	52.1	40
451BH012	PM ₁₀	0.6	2.5
451BH013	PM ₁₀	0.1	0.5
451BH015	PM ₁₀	2.5	10.9
	SO ₂	0.1	0.1
	VOC	0.1	0.4
	CO	1.4	5.9
	NO _x	1.6	7.1

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 4 and 8 and Plantwide Condition 5. [Regulation 18, §18.801, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
045BH69	PM	0.1	0.1
045BH70	PM	0.1	0.1
045BH87	PM	0.1	0.2
045BH88	PM	0.1	0.2
046BL01	PM	0.3	1.3
046BL02	PM	0.3	1.3
046BL03	PM	0.3	1.3
046BL04	PM	0.3	1.3
046BL05	PM	0.3	1.3

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400BH01	PM	0.6	2.8
400BH02	PM	1.1	4.8
400BH03	PM	1.4	6.0
400BH04	PM	0.2	1.0
400BH05	PM	0.2	1.0
400BH06	PM	0.2	1.0
400BH07	PM	0.2	1.0
400BH08	PM	0.1	0.1
400SB01	PM	0.7	3.1
400SB02	PM	0.7	3.1
400SB03	PM	0.7	3.1
410BH01	PM	0.6	2.3
410BH02	PM	0.6	2.3
410BH03	PM	0.2	0.9
410BH04	PM	0.1	0.1
410BH05	PM	0.1	0.1
410BH06	PM	0.3	1.2
451BH01	PM	0.1	0.1
451BH03	PM	0.3	1.2
451BH04	PM	0.3	1.2
451BH05	PM	0.5	1.9
451BH06	PM	0.2	0.8
451BH07	PM	0.5	1.9
451BH08	PM	0.2	0.9
451BH09	PM	0.2	0.8
451BH010	PM	0.8	3.5
451BH011	PM	1.3	5.6

451BH012	PM	0.6	2.5
451BH013	PM	0.1	0.5
451BH014	PM	5.1	21.9
451BH015	PM	4.0	17.8

3. The permittee shall maintain records of the amount of natural gas combusted in each of the package boilers (046BL01 thru 046BL05) during each month. These records shall be kept on site and all records shall be maintained for at least two years. [§19.304 and 40 CFR Part 60 Subpart Dc §60.48(c)]
4. The permittee shall combust only pipeline quality natural gas in the boilers and dryers at the hydrate chemicals process. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]
5. The permittee shall test the exhaust of one of the six package boilers (046BL01 - 046BL06) for NO_x and CO using EPA Reference Methods 7E and 10, respectively this test must be conducted within 180 days of the issuance of this permit, 1527-AOP-R5, and repeated every 5 years thereafter. The boiler being tested shall be operating within 90% of its rated capacity during the testing or the test shall be invalid. The Department shall choose which boiler is to be tested on the day of the test. This test shall be conducted in accordance with Plantwide Condition 3. [§19.702 and 40 CFR Part 52 Subpart E]
6. Particulate emissions from the auxiliary spray dryer, 451BH011, and the flash dryer, 451BH015, shall not exceed 0.025 grams/dscm. Compliance with this condition was demonstrated by an initial compliance test for 451BH011 and 451BH015. The permittee shall maintain records of these initial tests onsite and make them available to Department personnel upon request. Continued compliance with this condition will be demonstrated by compliance with Plantwide Condition 5. [§19.304 and 40 CFR Part 60 Subpart UUU §60.732]
7. The permittee shall not cause to be discharged to the atmosphere from sources SN-451BH015 and 451BH011 gases which exhibit an opacity greater than 10% as measured in accordance with EPA Reference Method 9 as found in 40 CFR Part 60, Appendix A. Compliance with this condition shall be verified by compliance with Plantwide Condition 8. [§19.304 and 40 CFR Part 60 Subpart UUU]
8. The permittee shall not exceed a production rate of 8.4 million pounds of silane coated alumina trihydrate during any consecutive twelve month period based on a rolling twelve month sum. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 9. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

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9. The permittee shall maintain records of the amount of silane coated alumina trihydrate produced during each calendar month. These records shall be updated by the 15th day of the month following the month the records represent, be kept on site, made available to Department personnel upon request, and kept in accordance with General Provision 7. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 70.6]

CALCINED ALUMINAS PRODUCTION PROCESS

BUILDINGS 51, 55, 405, 415, 420 AND 420A

The Calcined Alumina Plant consists of two rotary kilns, three ball mills (Buildings 55 and 420), one rail car unloading station, and two railcar loading stations.

The Calcined Aluminas Plant at Arkansas Operation receives various calcined aluminas as its process feed stocks. The calcined aluminas are received via bulk rail cars. The calcined alumina rail cars are unloaded via a pneumatic lift system to dry blender/ storage bins.

The alumina feed stocks are dry fed or wet fed to the rotary kilns depending on the product being made. Mineralizers are fed concurrently with the alumina feed stock for some products. All rotary kilns are fired with natural gas.

Calcined product exits the kilns. This red hot material enters a rotary cooler where ambient air and a water jacket is used for heat removal. The cooled alumina exits the rotary cooler and is then pneumatically transported to storage bins. The flue gases from the rotary kilns are processed through electrostatic precipitators and cyclones to remove entrained dust. The captured dust is recycled back into the rotary kiln.

The calcined alumina products are sold in unground, ground, and super ground forms. The unground alumina is packaged directly from storage bins into rail cars, 50-pound, 25-kilogram, 100-pound paper bags; 300- to 400-pound fiber drums; and super sacks weighing 2,000 to 3,500 pounds. The unground alumina can be blended in an air merge blender prior to packaging if the customer's applications require this process step. Bulk rail cars are also shipped directly to customers as a packaging alternative.

Ground aluminas ranging from 90 – 99.9% -325 mesh are processed through the one continuous ball mill in Special Aluminas. The mill grinds using ceramic (high alumina) media. Blending is performed based on customer requirements. Ground aluminas are processed through derrick's scalping screens to remove worn out media that exits the ball mills with the product. Ground aluminas have the same packaging alternatives as unground aluminas.

Super ground (SG) aluminas are >99.3% finer than 325 mesh and are approaching complete agglomerate separation into ultimate crystals. These SG aluminas are produced by grinding unground alumina in a batch ball mill located in Buildings 55 and 420. The unground alumina charges are batch weighed according to the recipes for each product into a batch charge hopper. The unground alumina passes through deironing filters as it is being loaded into the hopper. The

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weighed charge is loaded into the batch ball mill and ground for a specific time period, screened to remove worn out media, and then packaged. Standard packaging options include 50-pound paper bags and 400-pound fiber drums.

Specific Conditions

10. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 13 and Plantwide Condition 5. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
050BH07	PM ₁₀	0.7	2.8
051BH03	PM ₁₀	0.1	0.2
051BH04	PM ₁₀	0.1	0.2
051BH06	PM ₁₀	0.6	2.3
051BH07	PM ₁₀	0.6	2.3
051BH08	PM ₁₀	0.6	2.3
051BH11	PM ₁₀	0.1	0.5
055BH01	PM ₁₀	1.7	7.5
055BH02	PM ₁₀	0.6	2.8
055BH03	PM ₁₀	1.1	4.7
055BM01	VOC	2.5	11.0
405BH03	PM ₁₀	0.2	0.7
405BH04	PM ₁₀	0.7	2.8
405BH05	PM ₁₀	0.7	2.8
405BH06	PM ₁₀	0.7	2.8
405BH0308	PM ₁₀	0.1	0.1
405BH0309	PM ₁₀	0.1	0.1
405BH0310	PM ₁₀	0.1	0.1

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405BH0312	PM ₁₀	0.5	2.2
405BH0133	PM ₁₀	14.6	64.0
	SO ₂	1.0	4.4
	VOC	0.2	0.9
	CO	3.7	16.1
	NO _x	16.6	85.8
405EP0233	PM ₁₀	25.0	109.5
	SO ₂	1.0	4.4
	VOC	0.2	0.9
	CO	3.7	16.1
	NO _x	16.6	85.8
415BH0401	PM ₁₀	0.2	1.0
415BH0402	PM ₁₀	0.2	1.0
415BH6191	PM ₁₀	1.0	4.2
415BH6192	PM ₁₀	1.3	5.8
415BH6201	PM ₁₀	0.2	0.7
415BH6202	PM ₁₀	0.2	0.7
415BH6203	PM ₁₀	0.2	0.7
415BH6204	PM ₁₀	0.2	0.7
415BH6225	PM ₁₀	0.5	2.3
415BH6227	PM ₁₀	0.3	1.2
415BH6401	PM ₁₀	0.5	2.1
415BH6451	PM ₁₀	0.2	0.7
420BH05	PM ₁₀	0.2	0.9
420BH06	PM ₁₀	0.2	0.9
420BH6193	PM ₁₀	0.2	0.7
420BH6194	PM ₁₀	0.2	0.7
420BH6260	PM ₁₀	2.4	10.2
420BH7614	PM ₁₀	0.3	1.3
420BH7801	PM ₁₀	0.5	2.1

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420ABH7714	PM ₁₀	0.3	1.1
420ABH7716	PM ₁₀	0.4	1.8
420ABH7810	PM ₁₀	0.3	1.1
420ABH7811	PM ₁₀	0.3	1.4
420ABH7851	PM ₁₀	1.0	4.4

11. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 13 and Plantwide Condition 5. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
050BH07	PM	0.7	2.8
051BH03	PM	0.1	0.2
051BH04	PM	0.1	0.2
051BH06	PM	0.6	2.3
051BH07	PM	0.6	2.3
051BH08	PM	0.6	2.3
051BH11	PM	0.1	0.5
055BH01	PM	1.7	7.5
055BH02	PM	0.6	2.8
055BH03	PM	1.1	4.7
055BM01	Diethanolamine	0.4	1.5
405BH03	PM	0.2	0.7
405BH04	PM	0.7	2.8
405BH05	PM	0.7	2.8
405BH06	PM	0.7	2.8
405BH0308	PM	0.1	0.1
405BH0309	PM	0.1	0.1

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405BH0310	PM	0.1	0.1
405BH0312	PM	0.5	2.2
405BH0133	PM	14.6	64.0
405EP0233	PM	25.0	109.5
415BH0401	PM	0.2	1.0
415BH0402	PM	0.2	1.0
415BH6191	PM	1.0	4.2
415BH6192	PM	1.3	5.8
415BH6201	PM	0.2	0.7
415BH6202	PM	0.2	0.7
415BH6203	PM	0.2	0.7
415BH6204	PM	0.2	0.7
415BH6225	PM	0.5	2.3
415BH6227	PM	0.3	1.2
415BH6401	PM	0.5	2.1
415BH6451	PM	0.2	0.7
420BH05	PM	0.2	0.9
420BH06	PM	0.2	0.9
420BH6193	PM	0.2	0.7
420BH6194	PM	0.2	0.7
420BH6260	PM	2.4	10.2
420BH7614	PM	0.3	1.3
420BH7801	PM	0.5	2.1
420ABH7714	PM	0.3	1.1
420ABH7716	PM	0.4	1.8
420ABH7810	PM	0.3	1.1
420ABH7811	PM	0.3	1.4

420ABH7851	PM	1.0	4.4
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12. The permittee shall not exceed the following emission rates. Compliance with these rates shall be demonstrated by compliance with Specific Conditions 15, 16, and 17.
 [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
405EP0133	Hydrogen Fluoride	58.1	109.5
405EP0233	Hydrogen Fluoride	58.1	

13. The permittee shall test sources 405BH0133 and 405EP0233 for PM and PM₁₀ using Method 5 and 202, by using this method the permittee can assume all PM is PM₁₀ or also run test specifically for PM₁₀ using methods 201A and 202, CO using Method 10, and NO_x using Method 7E, on an annual basis. This test shall be conducted in accordance with Plantwide Condition 3 and on a schedule established by previous permits. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition 9. [§19.702 and 40 CFR Part 52 Subpart E]
14. Source 405BH0133 shall not be operated with a stack height less than 121 feet from ground level. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
15. The permittee shall not exceed a combined aluminum fluoride (AlF₃) feed rate of 127 lb/hr in 405BH0133 or 405EP0233. The HF feed rate limit is based on a HF emission factor of 915 lb HF emitted per ton of aluminum fluoride feed rate. In the event that the annual HF stack testing reveals higher emission factors, then the permittee shall submit a permit modification to revise the feed rate limit set forth in this condition. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 16. [§18.1004 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]
16. The permittee shall maintain daily records of the aluminum fluoride feed rate. These records shall include amount of aluminum fluoride fed to each source, the hours the source was operated, and the daily average feed rate to the two sources. The permittee shall also maintain monthly records which show the consecutive 12 month rolling total of aluminum fluoride fed to and HF emitted from sources 405BH0133 or 405EP0233. These monthly records will show compliance with the 109.5 ton per year limits on HF emissions. These records shall be updated by the 15th day of the month following the month which the records represent, kept on site, made available to the Department upon request, and submitted in accordance with General Provision 7. [§18.1004 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

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17. The permittee shall test sources 405BH0133 and 405EP0233 for hydrogen fluoride (HF) using Reference Method 26. This testing shall be performed annually. The permittee shall compute the HF emission factor determined during this testing in units of pounds of HF emitted per ton of fluoride feed rate. The permittee shall use the average feed rate during the duration of the test in conjunction with the average emission rate measured during the duration of the test, to derive the appropriate HF emission factor. This test shall be conducted in accordance with Plantwide Condition 3 and on a schedule established by previous permits. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition 9. [§18.1002 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

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CALCIUM ALUMINATE CEMENT PRODUCTION PROCESS BUILDING 60

The Calcium Aluminate Cement Plant receives limestone and alumina as feed stock. The limestone and alumina are co-ground in a continuous ball mill with steel liners and steel balls. The ball mill discharge (called raw mix) is batch-blended in a rotary blender for consistency. This raw mix is heat treated in a rotary kiln to produce a calcium aluminate clinker with a pre-determined calcium/aluminate phase composition. The clinker is ground with additives in a continuous ball mill with steel liners and steel balls. The finished cement is blended in an air merge blender for consistency and packaged in bags for storage and shipment. There are 5 different grades of cement campaigned in the calcium aluminate cement plant. These products' properties are controlled by different processing controls and/or feedstocks.

The ball mills and rotary kiln are located in Building 60 and the air merge blenders and packaging area are located in Building 435 which now support the B450 operation.

Note that these sources are currently idle. Almatis requests that the permit state that the Specific Conditions related to these sources will only apply to times when the sources are operating.

Specific Conditions

18. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 20, 21, and 22 and Plantwide Condition 5. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
060BH04	PM ₁₀	0.4	1.8
060BH0285	PM ₁₀	0.7	2.8
060BH0402	PM ₁₀	0.7	3.0
060BH0406	PM ₁₀	0.3	1.0
060BH0510	PM ₁₀	0.3	1.0
060BH0528	PM ₁₀	0.4	1.5
060BH0573	PM ₁₀	1.4	6.0
060BH0602	PM ₁₀	0.6	2.4
060EP0241	PM ₁₀	20.0	87.6
	SO ₂	1.0	4.4
	VOC	0.2	0.8
	CO	6.0	26.1
	NO _x	22.5	98.5
435BH0712	PM ₁₀	0.2	0.8
435BH0754	PM ₁₀	0.2	0.8
435BH0760	PM ₁₀	0.1	0.2
435BH0770	PM ₁₀	0.1	0.2

19. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 20, 21, and 22 and Plantwide Condition 5. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
060BH04	PM	0.4	1.8
060BH0285	PM	0.7	2.8
060BH0402	PM	0.7	3.0
060BH0406	PM	0.3	1.0
060BH0510	PM	0.3	1.0
060BH0528	PM	0.4	1.5
060BH0573	PM	1.4	6.0
060BH0602	PM	0.6	2.4
060EP0241	PM	20.0	87.6
435BH0712	PM	0.2	0.8
435BH0754	PM	0.2	0.8
435BH0760	PM	0.1	0.2
435BH0770	PM	0.1	0.2

20. The permittee shall measure the exhaust of 060EP0241 PM and PM₁₀ using Method 5 and 202, by using this method the permittee can assume all PM is PM₁₀ or also run test specifically for PM₁₀ using methods 201A and 202, CO using Method 10, and NO_x using Method 7E, on an annual basis. This test shall be conducted in accordance with Plantwide Condition 3 and on a schedule established by previous permits. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition 9. [§19.702 and 40 CFR Part 52 Subpart E]
21. The permittee shall measure the exhaust of 060BH0573 for particulate annually using EPA Reference Method 5 and 202. This test shall be conducted in accordance with Plantwide Condition 3 and on a schedule established by previous permits. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition 9. [§19.702 and 40 CFR Part 52 Subpart E]
22. The permittee shall combust only pipeline quality natural gas at source 060EP0241. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

**TABULAR PROCESS
BUILDINGS 425 AND 426**

The tabular alumina plant at the Arkansas facility receives calcined alumina as process feedstock in bulk hopper cars and from Building 405. The alumina is ground in a steel-media mill and transported to the ball forming operation. Ball forming is a two-stage process. Seed is produced and then green (unfired) balls are produced on proprietary equipment.

The green balls are then fired into tabular in the conversion stage, which consists of drying, firing and cooling equipment. The fired tabular balls are then either sold or crushed and screened into sizes varying from 0.5” to 100 mesh. Further size reduction occurs in pebble mills, which produce both screened and air-classified products.

Products are sold in paper bags, semi-bulk bags/drums, and bulk hopper cars/trucks.

Specific Conditions

23. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 25, 26, and 28 and Plantwide Condition 5. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
425AUC01	PM ₁₀	0.2	0.9
425BH01	PM ₁₀	0.5	2.1
425BH02	PM ₁₀	1.5	6.4
425BH03	PM ₁₀	1.0	4.2
425BH04	PM ₁₀	0.5	2.3
425BH05	PM ₁₀	2.4	10.5
425BH06	PM ₁₀	2.4	10.5
425BH07	PM ₁₀	0.4	1.5
425BH08	PM ₁₀	0.3	1.3

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Source	Pollutant	lb/hr	tpy
425BH09	PM ₁₀	0.4	1.4
		0.4	1.4
425BH1033	PM ₁₀	0.6	2.5
		0.6	2.5
425BH1037	PM ₁₀	0.7	3.0
425BH3343	PM ₁₀	1.5	6.4
425EP04	PM ₁₀	23.0	100.7
	SO ₂	1.0	4.4
	VOC	0.2	0.6
	CO	2.6	11.5
	NO _x	10.0	43.8
426BH1032	PM ₁₀	0.8	3.5
426BH1035	PM ₁₀	0.3	1.1
426BH1045	PM ₁₀	1.4	6.0
426BH3311	PM ₁₀	1.4	6.1
426BH3314	PM ₁₀	1.4	6.1
426BH3317	PM ₁₀	2.2	9.6
426BH3320	PM ₁₀	2.2	9.6
426BH5015	PM ₁₀	1.3	5.6
426BH5041	PM ₁₀	1.3	5.6
426BH5044	PM ₁₀	0.1	0.1
426BH5045	PM ₁₀	0.1	0.1
426BH7086	PM ₁₀	0.3	1.1
426EP06	PM ₁₀	23.0	100.7
	SO ₂	1.0	4.4
	VOC	0.2	0.6
	CO	21.9	95.9
	NO _x	31.1	136.2

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Source	Pollutant	lb/hr	tpy
426EP07	PM ₁₀	23.0	100.7
	SO ₂	1.0	4.4
	VOC	0.2	0.6
	CO	21.9	95.9
	NO _x	31.1	136.2

24. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Specific Conditions 25, 26, and 28 and Plantwide Condition 5. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
425AUC01	PM	0.2	0.9
425BH01	PM	0.5	2.1
425BH02	PM	1.5	6.4
425BH03	PM	1.0	4.2
425BH04	PM	0.5	2.3
425BH05	PM	2.4	10.5
425BH06	PM	2.4	10.5
425BH07	PM	0.4	1.5
425BH08	PM	0.3	1.3
425BH09	PM	0.4 0.4	1.4 1.4
425BH1033	PM	0.6 0.6	2.5 2.5
425BH1037	PM	0.7	3.0
425BH3343	PM	1.5	6.4
425EP04	PM	23.0	100.7
426BH1032	PM	0.8	3.5
426BH1035	PM	0.3	1.1
		1.4	6.0

Source	Pollutant	lb/hr	tpy
426BH1045	PM		
426BH3311	PM	1.4	6.1
426BH3314	PM	1.4	6.1
426BH3317	PM	2.2	9.6
426BH3320	PM	2.2	9.6
426BH5015	PM	1.3	5.6
426BH5041	PM	1.3	5.6
426BH5044	PM	0.1	0.1
426BH5045	PM	0.1	0.1
426BH7086	PM	0.3	1.1
426EP06	PM	23.0	100.7
426EP07	PM	23.0	100.7

25. The exhaust of the three dryer ESPs (425EP04, 426EP06, and 426EP07) shall be tested for PM and PM₁₀ using Method 5 and 202, by using this method the permittee can assume all PM is PM₁₀ or also run test specifically for PM₁₀ using methods 201A and 202, CO using Method 10, and NO_x using Method 7E, on an annual basis. This test shall be conducted in accordance with Plantwide Condition 3 and on a schedule established by previous permits. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition 9. [§19.702 and 40 CFR Part 52 Subpart E]
26. The permittee shall not load out more than 20,000 tons of alumina at 425AUC01 (bulk loading station at trucks underneath Dense Phase pump feed tank) during any consecutive 12 month period. The permittee shall demonstrate compliance with this condition by compliance with Specific Condition 27. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]
27. The permittee shall keep records on the amount of alumina loaded out at 425AUC01 during each calendar month. These records shall include the amount of alumina loaded out each of the previous 12 months and the total loaded out over the previous consecutive 12 months. These records shall be updated by the 15th day of the month following the month the records represent, be kept on site, made available to Department personnel upon request, and kept in accordance with General Provision 7. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

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28. The permittee shall combust only pipeline quality natural gas at sources 425EP04, 426EP06, and 426EP07. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

ELECTRONIC PACKAGING BUILDING 141

Two different fine powder products are manufactured in this facility using two separate processes. Pneumatic conveyance of both materials through the processes necessitates the use of both product and fugitive dust collectors.

The first process is a grinding operation. The unground powder is transported to the facility in a trailer and unloaded pneumatically into the mill feed tank. A bin vent collector atop the feed tank separates transport air from the solids stream. The unground powder exits the feed tank, passes through a gravimetric feeder, and into the mill. The material is ground in the mill to the consistency of flour and transported pneumatically to the product collector where the air and solids streams are separated. The transport air exits the process through the dust collector blower. The ground product is packaged in appropriate containers directly beneath the product collector. A nuisance dust collector catches any fugitive dust that may escape the packaging system or gravimetric feeder.

The second process is a ground powder classification operation. This operation is actually two parallel systems that can manufacture two different classified powders without concern for cross contamination, except in the classifier proper which must be cleaned out between products. One of the parallel systems is not used routinely for any product at this time. The second ground powder is transported to the facility in drums or super sacks. These containers are emptied into the feed tank using the pneumatic lift system. A bin vent collector atop the feed tank separates transport air from the solids stream. The ground powder exits the feed tank, passes through a gravimetric feeder, and into the classifier. The ground fraction is pneumatically conveyed to a coarse cyclone system where the air and solids streams are separated. The transport air is recycled into the classifier. The coarse fraction is then packaged in appropriate containers beneath the cyclones. The fine fraction is pneumatically conveyed to the product collector where the air and solids streams are separated. The fine fraction is packaged in appropriate containers directly beneath the product collector. The nuisance dust collector captures any fugitive dust that may escape the packaging system, gravimetric feeders, or the #1 lift system.

Specific Conditions

29. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 5. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

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Source	Pollutant	lb/hr	tpy
141BH01	PM ₁₀	0.3	1.2
141BH02	PM ₁₀	0.6	2.6
141BH03	PM ₁₀	1.3	5.6
141BH04	PM ₁₀	0.1	0.2
141BH05	PM ₁₀	0.1	0.3
141BH06	PM ₁₀	0.1	0.1

30. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance with Plantwide Condition 5. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
141BH01	PM	0.3	1.2
141BH02	PM	0.6	2.6
141BH03	PM	1.3	5.6
141BH04	PM	0.1	0.2
141BH05	PM	0.1	0.3
141BH06	PM	0.1	0.1

Storage Piles and Haul Roads

Process Description

Fugitive emissions occur from traffic on the paved and unpaved roads at the facility. The emissions from these haul roads were calculated using the equations for paved and unpaved roads found in AP-42, Chapter 13, Section 13.2.1 and 13.2.2. Storage piles at the facility generate fugitive particulate emissions. These emissions were calculated using the AP-42 equations found in Section 13.2.4.

Specific Conditions

31. The permittee shall not exceed the emission rates set forth in the following table.
[Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
MISC	PM ₁₀	22.2	3.7

32. The permittee shall not exceed the emission rates set forth in the following table.
[Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Pollutant	lb/hr	tpy
MISC	PM	22.2	3.7

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SECTION V: COMPLIANCE PLAN AND SCHEDULE

Almatis, Inc. will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide: [Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
 - a. Sampling ports adequate for applicable test methods;
 - b. Safe sampling platforms;
 - c. Safe access to sampling platforms; and
 - d. Utilities for sampling and testing equipment.
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
7. The opacity limit for each emission source listed in the table of allowable emission rates is limited to the value in the opacity survey (Appendix B) as measured by EPA Reference Method 9. All sources are to be visually inspected at least once per week. If any source appears to be out of compliance with the opacity limit while conducting the visual inspection then the permittee shall perform a Method 9 evaluation on that particular

source(s). If any source should exceed its opacity limit, then the cause of the exceedance shall be investigated and corrected as soon as possible. The opacity of each source that appears to be out of compliance with the opacity limit shall be recorded on the opacity survey forms (Appendix B), which shall be kept on site and available for inspection. Also, records shall be kept on site and made available upon request showing that the visual inspections of each source are being performed as required by this condition. Any source which is idled or shut down for the entire calendar week need only note the source is shut down or idled and not make the visual inspection of the source that week. Sources with 5% and 10% opacity limits not required by an NSPS are subject to the following regulation [§18.501 and 40 CFR Part 52, Subpart E]. Sources with a 20% opacity limit are subject to the following regulation [§19.503 and 40 CFR Part 52, Subpart E].

8. The permittee shall visually inspect sources SN-451BH015 and 451BH011 at least once per week. If any source appears to be out of compliance with the opacity limit while conducting the visual inspection then the permittee shall perform a Method 9 evaluation on that particular source(s). If any source should exceed its opacity limit, then the cause of the exceedance shall be investigated and corrected as soon as possible. The opacity of each source that appears to be out of compliance with the opacity limit shall be recorded on the opacity survey forms (Appendix B), which shall be kept on site and available for inspection. Also, records shall be kept on site and made available upon request showing that the visual inspections of each source are being performed as required by this condition. [19.304 of Regulation 19 and 40 CFR Part 60, Subpart UUU]
9. For the sources with stack testing requirements in Specific Conditions 13, 17, 20, 21, and 25, testing shall be performed on an annual basis in accordance with Plantwide Condition 3 on each source required to be tested. Upon showing consistent compliance, stack testing shall be performed every two (2) years thereafter. Consistent compliance shall be defined as two consecutive annual stack tests, for each source, which are within the permit limits. If a source which has demonstrated consistent compliance fails a test, then that source shall return to annual testing until consistent compliance can be established. If a source is shut down or in a section of the plant which is idle when its testing is due, the source need not be restarted to be tested. The permittee shall inform the Department that the source is shut down and testing postponed at least 15 days prior to the date the test would be required. Once restarted, the idled or shut down source must be tested within sixty (60) days of achieving the maximum production rate, but no later than 180 days after start up of the source in accordance with Plantwide Condition 3. If a source misses any testing requirement due to being shut down or idle the source shall resume annual testing until consistent compliance can be established. [§19.702 and 40 CFR Part 52 Subpart E]

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SECTION VII: INSIGNIFICANT ACTIVITIES

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated October 22, 2003.

Emission Source Description	Reason Insignificant
Perchloric storage area (building 41 area)	A-5
Fume hood exhausts (7 x 8" dia., elev. = Building +6') building 41 area	A-5
Fume hood exhaust, Building 41 Grinding Room	A-5
Chemical vent (2" dia., 12' elev.), south side of building 152	A-5
Fume hood exhaust, south side of building 152	A-5
Fume hood exhaust (2 @ 6" x 8" dia., 10' elev.), north side of building 152	A-5
Hydrate Chemical Precipitator Tanks, building 45	A-13
4 - Baghouses exhausting from Building 426	A-13
Truck Loading Baghouse, SN-415BH403	A-13

SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective September 26, 2002]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]
 - a. The date, place as defined in this permit, and time of sampling or measurements;
 - b. The date(s) analyses performed;
 - c. The company or entity performing the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions existing at the time of sampling or measurement.
6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample,

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measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
 - a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
 - i. The facility name and location
 - ii. The process unit or emission source deviating from the permit limit,
 - iii. The permit limit, including the identification of pollutants, from which deviation occurs,
 - iv. The date and time the deviation started,
 - v. The duration of the deviation,
 - vi. The average emissions during the deviation,
 - vii. The probable cause of such deviations,
 - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
 - ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The

permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]
12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director

along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]
 - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also

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submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]

- a. The identification of each term or condition of the permit that is the basis of the certification;
 - b. The compliance status;
 - c. Whether compliance was continuous or intermittent;
 - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit;
 - e. and Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]
 - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
 - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
 - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Summary of Testing Requirements		
Source	Testing	Pollutant
046BL01, 02, 03, 04, 05	✓	NO _x
	✓	CO
405BH0133	✓	PM, CO, NO _x
	✓	HF
405EP0233	✓	PM, CO, NO _x
	✓	HF
060EP0241	✓	PM, CO, NO _x
060BH0573	✓	PM
425EP04	✓	PM, CO, NO _x
426EP06	✓	PM, CO, NO _x
426EP07	✓	PM, CO, NO _x

OPACITY SURVEY

WEEK OF:				SECTION TO BE READ:							
SN	Process Unit	Permit Opacity	Opacity	SN	Process Unit	Permit Opacity	Opacity	SN	Process Unit	Permit Opacity	Opacity
MAIN SOURCES				SECTION 1				SECTION 2			
046BL01	#1 Package Boiler	5 ^a		045BH69	BV-69 Alumina D/C	5 ^a		141BH01	Milled Product D/C	5 ^a	
046BL02	#2 Package Boiler	5 ^a		045BH70	BV-70 Alumina D/C	5 ^a		141BH02	Glass Frit/Fines D/C	5 ^a	
046BL03	#3 Package Boiler	5 ^a		045BH88	MgO Storage D/C	5 ^a		141BH03	Nuisance D/C	5 ^a	
046BL04	#4 Package Boiler	5 ^a		045BH87	Lime Storage D/C	5 ^a		141BH04	Mill Feed Tank D/C	5 ^a	
046BL05	#5 Package Boiler	5 ^a		050BH07	#1 Dust Collector	5 ^a		141BH05	#1 Classifier D/C	5 ^a	
060EP0241	#2 Kiln ESP	20 ^b		051BH03	#3 Bin Vent D/C	5 ^a		141BH06	#2 Classifier D/C	5 ^a	
060BH0573	Clinker D/C	5 ^a		051BH04	#4 Bin Vent D/C	5 ^a		400BH01	#5 Storage Bin D/C	5 ^a	
400SB01	#1 Scrubber	20 ^b		051BH06	#1 Air Slide D/C	5 ^a		400BH02	Bulk Loading D/C	5 ^a	
400SB02	#2 Scrubber	20 ^b		051BH07	#3 Air Slide D/C	5 ^a		400BH03	#2 Storage Tank D/C	5 ^a	
400SB03	#3 Scrubber	20 ^b		051BH08	#2 Air Slide D/C	5 ^a		400BH04	#1 Storage Tank D/C	5 ^a	
405BH0133	#1 Baghouse	20 ^b		051BH11	Unload Hopper D/C	5 ^a		400BH05	#3A Storage Tank D/C	5 ^a	
405EP0233	#2 ESP	20 ^b		055BH01	#1 Blender D/C	5 ^a		400BH06	#3B Storage Tank D/C	5 ^a	
425EP04	#4 ESP	20 ^b		055BH02	#2 Blender D/C	5 ^a		400BH07	#4 Storage Tank D/C	5 ^a	
426EP06	#6 ESP	20 ^b		055BH03	Nuisance D/C	5 ^a		400BH08	#1 Rework Tank D/C	5 ^a	
426EP07	#7 ESP	20 ^b		060BH04	Pelletization Feed Tanks	5 ^a					
				060BH406	#4 Blender	5 ^a					
				060BH0528	#3B Blender	5 ^a					
				060BH0510	#3A Blender	5 ^a					
				420BH7614	420-3 D/C	5 ^a					
				420BH7801	420-5 Bulk Load	5 ^a					
				060BH0285	Raw Mix D/C	5 ^a					
				060BH0402	#3 A3 Tank D/C	5 ^a					
				060BH0602	#2 Surge D/C	5 ^a					

^aThis opacity limit assigned pursuant to §18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311. (Plantwide Condition 13)

^bThis opacity limit assigned pursuant to §19.503 of Regulation 19 and 40 CFR Part 52, Subpart E. (Plantwide Condition 14)

SN	Process Unit	Permit Opacity	Weekly Opacity	SN	Process Unit	Permit Opacity	Weekly Opacity	SN	Process Unit	Permit Opacity	Weekly Opacity
SECTION 3				420BH05	#1 Bagging D/C	5 ^a		426BH1045	#3 Ceramic Mill D/C	5 ^a	
405BH312	#1 Lift System d/c	5 ^a		420BH06	#2 Bagging D/C	5 ^a		426BH7086	Boric Acid D/C	5 ^a	
405BH308	#1 Blender D/C	5 ^a		420BH6193	#1 AirSlide Vent	5 ^a		426BH1032	#2 Ceramic Mill D/C	5 ^a	
405BH309	#2 Blender D/C	5 ^a		420BH6194	#2 AirSlide Vent	5 ^a		426BH5044	12-1 Bin D/C	5 ^a	
405BH310	#1 High Tank D/C	5 ^a		420ABH7851	Majac D/C	5 ^a		426BH5045	Bulk Load D/C	5 ^a	
405BH03	Bldg 405b nuisance	5 ^a		420ABH7714	420A-2 Course D/C	5 ^a		SECTION 5			
405BH04	#4 Alumina D/C	5 ^a		420ABH7716	420A-3 Fines D/C	5 ^a		435BH0712	Product Tank #3/#4	5 ^a	
405BH05	#5 Alumina D/C	5 ^a		420ABH7810	Norblo XFER D/C	5 ^a		435BH0754	Blender #4 D/C	5 ^a	
405BH06	#6 Alumina D/C	5 ^a		420ABH7811	#7 Product Tank	5 ^a		435BH0760	Blender #5 D/C	5 ^a	
410BH01	#1 D/C	5 ^a		SECTION 4				435BH0770	Rework System D/C	5 ^a	
410BH02	#2 mic-pulsair D/C	5 ^a		425BH01	Low Iron Tabular	5 ^a		451BH01	#1 Product Bin Vent d/c	5 ^a	
410BH03	Nuisance, #3	5 ^a		425BH02	High Iron Tabular	5 ^a		451BH03	H-700 Twin Pro. D/C	5 ^a	
410BH04	Bin Vent #1 Feed	5 ^a		425BH1003	325 Ceramic Mill	5 ^a		451BH04	Ground Gel D/C	5 ^a	
410BH05	Bin Vent #2 Feed	5 ^a		425BH03	Ground Ore D/C	5 ^a		451BH05	Auxiliary Spray Dryer	5 ^a	
410BH06	#2 Product Tank	5 ^a		425BH3343	8th Floor D/C	5 ^a		451BH06	Hydral bulk loading d/c	5 ^a	
415BH6191	415-4 D/C	5 ^a		425BH04	4th Floor D/C	5 ^a		451BH07	PD Nuisance D/C	5 ^a	
415BH6451	415-6 D/C	5 ^a		425BH05	#2 Flex-Kleen D/C	5 ^a		451BH08	Spacerite Feed Tank	5 ^a	
415BH0401	415-7 D/C	5 ^a		425BH06	#3 Flex-Kleen D/C	5 ^a		451BH09	Spacerite Product D/C	5 ^a	
415BH0402	415-8 D/C	5 ^a		425BH07	425A DPP D/C	5 ^a		451BH010	CX200S Nuisance D/C	5 ^a	
415BH6225	415-9 D/C	5 ^a		425BH08	T-1 Mill D/C	5 ^a		451BH011	Aux. Spray Dryer D/C	10 ^c	
415BH6227	415-20 D/C	5 ^a		425BH09	#2, 3, 4 Ground Ore D/C	5 ^a		451BH012	#4 Bin Vent D/C	5 ^a	
415BH6192	415-11 D/C	5 ^a		425BH1037	Product D/C	5 ^a		451BH013	#2 Spray Dryer Nuis.D/C	5 ^a	
415BH6401	415-12 D/C	5 ^a		426BH3320	#4 Tabular D/C	5 ^a		451BH014	#1 Spray Dryer Pro.	5 ^a	
415BH6202	#2 3W1 D/C	5 ^a		426BH3317	#3 Tabular D/C	5 ^a		451BH015	Flash Dryer	10 ^c	
415BH6204	#2 3W2 D/C	5 ^a		426BH5041	Unground Ore D/C	5 ^a					
415BH6201	#1 3W1 D/C	5 ^a		426BH5015	Ground Ore D/C	5 ^a					
415BH6203	#1 3W2 D/C	5 ^a		426BH3311	#1 Tabular D/C	5 ^a					
420BH6260	420-4 Flex-Kleen	5 ^a		426BH3314	#2 Tabular D/C	5 ^a					
				426BH1035	#8 Ball Former D/C	5 ^a					
				FUGITIVE EMISSIONS:							
COMMENTS:											

Observed By: _____ Date: _____

Checked By: _____ Date: _____

_____ Excursion Reports Initiated

Approved By: _____ Date: _____

^aThis opacity limit assigned pursuant to §18.501 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311. (Plantwide Condition 13)

^bThis opacity limit assigned pursuant to §19.503 of Regulation 19 and 40 CFR Part 52, Subpart E. (Plantwide Condition 14)

^cThis opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart UUU. (Specific Condition 8)

APPENDIX A

APPENDIX B

APPENDIX C

