RESPONSE TO COMMENTS

ALMATIS, INC.
PERMIT # 1527-AOP-R12
AFIN: 63-00010

On May 2, 2011 the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, written comments on the draft permitting decision were submitted by the facility and the EPA. The Department's response to these issues follows.

Note: The following page numbers and condition numbers refer to the draft permit. These references may have changed in the final permit based on changes made during the comment period.

The following comments were submitted by the facility.

Comment #1:

Plantwide Condition #9 - The facility requests that this condition be revised to reference that stack testing requirements in Specific Condition No. 20, 24 and 35.

Response to Comment #1

The cross references in Plantwide Condition #9 were corrected in the permit.

Comment #2:

Emission Summary - SN-050BH07 is not listed in the emission summary although this source was included in the Specific Conditions #17 and #18. The facility requests that the emission summary be revised to include particulate emissions from SN-050BH07.

Response to Comment #2:

The emission summary table was revised to include the particulate emissions from SN-050BH07.

Comment #3:

Emission Summary
The facility requests that the emission summary be updated accordingly as
Follows:

Description	Pollutant	Emission Rates	
		lb/hr	tpy
Total Allowable Emissions	PM	208.2	799.9
	PM_{10}	207.2	793.0

Response to Comment #3:

The Department disagrees. The emission summary results for PM and PM_{10} are correct in the draft permit.

The following comments were submitted by EPA.

Comment #4:

Statement of Basis

Page 2 of 10, COMPLIANCE STATUS: Regarding 2008 failed stack tests for the following emission sources, have those sources been retested since 2008 and how is the outcome ?

- Failed stack tests were performed on May 20, 2008 and May 21, 2008 for NO_X at SN-420EP06 and SN-420EP07.
- Failed stack tests were performed on July 29, 2008 for PM at SN-405BH0133 and SN-420EP0233.

Please explain that neither Statement of Basis nor Draft Permit shows that there is a NOx emission limit or monitoring frequency for SN-420EP06 and SN-420EP07.

Response to Comment #4:

- 420EP06 and SN-420EP07: The source numbers "420EP06 and SN-420EP07" were listed incorrectly in the Statement of Basis of the permit. The correct numbers are SN-426EP06 and SN-426EP07. The compliance demonstration testing was conducted on September 15, 2009. Stack testing was conducted to determine the concentrations and emission rates of particulate matter (PM), nitrogen oxides (NO_X) and carbon monoxide (CO). All tests were passed.

- SN-405BH0133: Testing was conducted on the Kiln #1 baghouse outlet (SN-405BH0133) to determine the emission rates of particulate matter (PM), nitrogen oxides (NO_X) and carbon monoxide (CO) in order to demonstrate compliance with the facility's air permit. Testing was conducted on December 10, 2009 and all tests were passed.

- SN-405EP0233: Testing was conducted on the #2 Kiln outlet to determine the emission rates of particulate matter (PM) and hydrogen fluoride (HF). Testing was conducted on September 16, 2009 and all tests were passed.

Comment #5:

Page 4 of 10, CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Efficiency	Comments
HF emissions from 405BH0133 and EP0233	Testing	915 lb HF per ton Aluminum Fluoride	N/A	None	

At the Emission Factor Column for those two emission sources, it stated, "testing". So please explain where the HF emission factor of "915 lb HF per ton Aluminum Fluoride" is from and how the hourly rate and annual rated in Specific Condition 19 were calculated?

Source	Pollutant	lb/hr	tpy
405EP0133	HF	58.1	109.5
405EP0233	HF	58.1	

Response to Comment #5:

The emission factor, 915 lb HF per ton Aluminum Fluoride, is from the stack test conducted in January and February 2001. Emission rates are based on the aluminum fluoride feed rate of 127 lb/hr and 478,688 pounds/yr. Estimated emission rates are;

(127 lb AlF3/hr)(1/2000 ton/lb)(915 lb HF/ton) = 58.06 lb/hr round up to 58.1 lb/hr

(478,688 lb AlF3/yr)(1/2000 ton/lb)(915 lb HF/ton)(1/2000 ton/lb) = 109.5 ton/yr

Comment #6:

Draft Permit, 1527-AOP-R12

Page 6, Emission Summary: it states, "The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit."

A summary table provides the permittee, EPA, and the general public the information to determine compliance with Federal and State requirements. Please explain why information in this Table is not enforceable condition.

Response to Comment #6:

The permit conditions within each section of the permit are enforceable.

The following comment is submitted by the Department.

Comment #7:

On page 34, Specific Condition #19, the source number "405EP0133" is incorrect. The correct source number is 405BH0133.

Response to Comment #7:

The facility modified 405EP0133 to baghouse (405BH0133) in 2005. Therefore, the source name should be consistence with 405BH0133. The typographic error was corrected.

Comment #8:

On page 32, Specific Condition #18 needs to be revised to remove HF limits from SN-405BH0133 and SN-405EP0233. The HF limits for SN-405BH0133 and SN-405EP0233 are included in Specific Condition #19.

405BH0133	#1 Baghouse Special Cycle Baghouse	PM	14.6	64.0
		~~HF~~	~~58.1~~	~~109.5~~
405EP0233	#2 ESP	PM	25.0	109.5
		~~HF~~	~~58.1~~	~~109.5~~

Response to Comment #7:

Specific Condition #18 was revised to remove the HF limits.

ADEQ

ARKANSAS
Department of Environmental Quality

August 9, 2011

James Whitener
Environmental Health and Safety Specialist
Almatis, Inc.
4701 Alcoa Road
Bauxite, AR 72011

Dear Mr. Whitener:

The enclosed Permit No. 1527-AOP-R12 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 1/20/2010.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 1527-AOP-R12 for the construction, operation and maintenance of an air pollution control system for Almatis, Inc. to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,

Mike Bates
Chief, Air Division

ADEQ
OPERATING
AIR PERMIT

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

Permit No. : 1527-AOP-R12

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:

August 9, 2011 AND August 8, 2016

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

Signed:

Mike Bates
Chief, Air Division

August 9, 2011
Date Modified

Almatis, Inc.
Permit #: 1527-AOP-R12
AFIN: 63-00010

Table of Contents

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:	Almatis, Inc.
AFIN:	63-00010
PERMIT NUMBER:	1527-AOP-R12
FACILITY ADDRESS:	4701 Alcoa Road Bauxite, AR 72011
MAILING ADDRESS:	4701 Alcoa Road Bauxite, AR 72011
COUNTY:	Saline County
CONTACT NAME:	James Whitener
CONTACT POSITION:	Environmental Health and Safety Specialist
TELEPHONE NUMBER:	501-776-4931
REVIEWING ENGINEER:	Parviz Mokhtari
UTM North South (Y):	Zone 15: 3826440.19 m
UTM East West (X):	Zone 15: 543120.42 m

SECTION II: INTRODUCTION

Summary of Permit Activity

Almatis, Inc. located at 4701 Alcoa Road in Bauxite, AR is a manufacturer of various forms of alumina. Almatis submitted a renewal application to renew the facility's Title V air permit. In addition to renewing the facility's Title V air permit, the permit removes SN-060BH03, SN-060BH04, SN-060BH05, SN-060BH0285, SN-060BH0406, SN-060BH0510, SN-060BH0528, SN-060BH0573, SN-060BH0602, SN-060EP0241, SN-141BH02, and SN-141BH03 from the permit. The permit replaces baghouse 415-12 Dust Collector, SN-415BH6401, with a larger unit. The total permitted annual emission rate limit decreases associated with this renewal include: 99.6 tons per year (tpy) PM, 69.6 tpy PM_{10}, 4.4 tpy SO_2, 0.08 tpy VOC, 26.1 tpy CO, and 16.1 tpy NO_X.

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. The opacity survey form can be found in Appendix A.

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective June 18, 2010
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective July 18, 2009
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009
40 CFR 52.21 Prevention of Significant Deterioration.
40 CFR Part 60 Subpart UUU, *Standards of Performance for Calciners and Driers in the Mineral Industry*
40 CFR Part 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
40 CFR Part 60 Subpart LL, *Standards of Performance for Metallic Mineral Processing Plants*

Emission Summary

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				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	207.9	798.2
		PM_{10}	206.4	791.3
		SO_2	8.6	35.8
		VOC	73.4	69.6
		CO	73.1	318.8
		NO_X	152.8	669.1
HAPs		Formaldehyde*	0.03	0.07
		HF	58.1	109.5
		Diethanolamine*	0.4	1.5
Hydrate Chemicals				
045BH69	BV-69 Alumina Storage D/C	PM	0.1	0.1
		PM_{10}	0.1	0.1
045BH70	BV-70 Alumina Storage D/C	PM	0.1	0.1
		PM_{10}	0.1	0.1
045BH87	Magnesium Oxide Storage D/C	PM	0.1	0.2
		PM_{10}	0.1	0.2
045BH88	Quick Lime Storage D/C	PM	0.1	0.2
		PM_{10}	0.1	0.2
046BL01	Package Boiler #1 (Natural Gas Fuel)	PM	0.3	1.3
		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	Package Boiler #2 (Natural Gas Fuel)	PM	0.3	1.3
		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	Package Boiler #3 (Natural Gas Fuel)	PM	0.3	1.3
		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

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
046BL04	Package Boiler #4 (Natural Gas Fuel)	PM	0.3	1.3
		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	Package Boiler #5 (Natural Gas Fuel)	PM	0.3	1.3
		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
143FHE01	Spray Dryer	VOC	16.1	9.5
		Formaldehyde	0.02	0.02
400BH01	#5 Storage Bin Dust Collector	Removed from Service (2006)		
400BH02	Bulk Loading Dust Collector	PM	1.1	4.8
		PM_{10}	1.1	4.8
400BH03	#2 Storage Tank Dust Collector	PM	1.4	6.0
		PM_{10}	1.4	6.0
400BH04	#1 Storage Tank Dust Collector	PM	0.2	1.0
		PM_{10}	0.2	1.0
400BH05	#3A Storage Tank Dust Collector	PM	0.2	1.0
		PM_{10}	0.2	1.0
400BH06	#3B Storage Tank Dust Collector	PM	0.2	1.0
		PM_{10}	0.2	1.0
400BH07	#4 Storage Tank Dust Collector	PM	0.2	1.0
		PM_{10}	0.2	1.0
400BH08	#Rework Tank Dust Collector	PM	0.1	0.1
		PM_{10}	0.1	0.1
400BH09	# Storage Bin Dust Collector	PM	0.4	1.5
		PM_{10}	0.4	1.5
400SB01	#1 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
		PM_{10}	0.7	3.1
400SB02	#2 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
		PM_{10}	0.7	3.1
400SB03	#3 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
		PM_{10}	0.7	3.1
410BH01	#1 Dust Collector (Baghouse)	PM	0.6	2.3
		PM_{10}	0.6	2.3
410BH02	#2 Mikro Pulsarie Dust Collector (Baghouse)	PM	0.6	2.3
		PM_{10}	0.6	2.3
410BH03	Nuisance Dust, #3 Grinding (Baghouse)	PM	0.2	0.9
		PM_{10}	0.2	0.9
410BH04	Bin Vent #1 Feed Tank (Baghouse)	PM	0.1	0.1
		PM_{10}	0.1	0.1

Almatis, Inc.
Permit #: 1527-AOP-R12
AFIN: 63-00010

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
410BH05	Bin Vent #2 Feed Tank (Baghouse)	PM	0.1	0.1
		PM_{10}	0.1	0.1
410BH06	#2 Product Tank Dust Collector (Baghouse)	PM	0.3	1.2
		PM_{10}	0.3	1.2
451BH01	#1 Product Bin Vent Dust Collector (Baghouse)	PM	0.1	0.1
		PM_{10}	0.1	0.1
451BH03	H-700 Dust Collector (Baghouse)	PM	0.3	1.2
		PM_{10}	0.3	1.2
451BH04	Ground Gel Collector (Baghouse)	PM	0.3	1.2
		PM_{10}	0.3	1.2
451BH05	Spray Dryer Nuisance Dust Collector (Baghouse)	PM	0.5	1.9
		PM_{10}	0.5	1.9
451BH06	Hydrate Bulk Nuisance Dust Collector (Baghouse)	PM	0.2	0.8
		PM_{10}	0.2	0.8
451BH07	Spray Dryer Nuisance Dust Collector (Baghouse)	PM	0.5	1.9
		PM_{10}	0.5	1.9
		SO_2	1.0	4.4
		VOC	0.1	0.1
		CO	0.3	1.0
		NO_X	0.3	1.1
451BH08	Jet Mill Feed Tank Dust Collector (Baghouse)	PM	0.2	0.9
		PM_{10}	0.2	0.9
451BH09	Jet Mill Product Tank Dust Collector (Baghouse)	PM	0.2	0.8
		PM_{10}	0.2	0.8
451BH010	CX200S Nuisance Dust Collector (Baghouse)	PM	0.8	3.5
		PM_{10}	0.8	3.5
451BH011	Auxiliary Spray Dust Collector (Baghouse)	PM	1.3	5.6
		PM_{10}	1.3	5.6
		SO_2	1.0	4.4
		VOC	52.1**	40**
		CO	0.3	1.1
		NO_X	0.3	1.3
		Formaldehyde	0.01**	0.05**
451BH014	#4 Bin Vent Dust Collector (Baghouse)	PM	5.2	22.6
		PM_{10}	5.2	22.6
		SO_2	1.0	4.4
		VOC	52.1**	40**
		CO	0.8	3.3
		NO_X	0.9	3.9
		Formaldehyde	0.01**	0.05**
451BH012	Flash Dryer	PM	0.6	2.5
		PM_{10}	0.6	2.5
451BH013	Pump Surge Hopper Baghouse	PM	0.1	0.5
		PM_{10}	0.1	0.5

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
451BH015	PGA Bagging Baghouse	PM	4.0	17.8
		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
451BH016	Bulk Loading Dust Collector	PM	0.1	0.1
		PM_{10}	0.1	0.1
451BH0760	#2 Storage Tank Dust Collector	PM	1.3	5.5
		PM_{10}	1.3	5.5
Calcined Aluminas				
050BH07	#1 Dust Collector (Baghouse)	PM	0.7	2.8
		PM_{10}	0.7	2.8
051BH03	#2 Air Slide Dust Collector (Baghouse)	PM	0.1	0.2
		PM_{10}	0.1	0.2
051BH04	Unloading Hopper Airslide Dust Collector (Baghouse)	PM	0.1	0.2
		PM_{10}	0.1	0.2
051BH06	#1 Blender Dust Collector (Baghouse)	PM	0.6	2.3
		PM_{10}	0.6	2.3
051BH07	#2 Blender Discharge Dust Collector (Baghouse)	PM	0.6	2.3
		PM_{10}	0.6	2.3
051BH08	Nuisance Dust Collector (Baghouse)	PM	0.6	2.3
		PM_{10}	0.6	2.3
051BH11	Batch Ball Mill	PM	0.1	0.5
		PM_{10}	0.1	0.5
055BH01	Building 405B Nuisance Dust Collector	PM	1.7	7.5
		PM_{10}	1.7	7.5
055BH02	#4 Alumina Transport Dust Collector (Baghouse)	PM	0.6	2.8
		PM_{10}	0.6	2.8
055BH03	#5 Alumina Transport Dust Collector (Baghouse)	PM	1.1	4.7
		PM_{10}	1.1	4.7
055BM01	#6 Alumina Transport Dust Collector (Baghouse)	VOC	2.5	11.0
		Diethanolamine	0.4	1.5
405BH03	#1 Blender Collector (Baghouse)	Exhaust into Building		
405BH04	#3 Air Slide Dust Collector (Baghouse)	PM	0.7	2.8
		PM_{10}	0.7	2.8
405BH05	#2 Air Slide Dust Collector (Baghouse)	PM	0.7	2.8
		PM_{10}	0.7	2.8
405BH06	Unloading Hopper Airslide Dust Collector (Baghouse)	PM	0.7	2.8
		PM_{10}	0.7	2.8
405BH0308	#1 Blender Dust Collector (Baghouse)	PM	0.1	0.1
		PM_{10}	0.1	0.1
405BH0309	#2 Blender Collector	PM	0.1	0.1
		PM_{10}	0.1	0.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
405BH0310	#1 High Tank Dust Collector	PM	0.1	0.1
		PM_{10}	0.1	0.1
405BH0312	#1 Lift System Dust Collector	PM	0.5	2.2
		PM_{10}	0.5	2.2
405BH0133	#1 Baghouse	PM	14.6	64.0
		PM_{10}	14.6	64.0
		SO_2	1.0	4.4
		VOC	0.2	0.9
		CO	3.7	16.1
		NO_X	19.6	85.8
		HF	58.1	109.5
405BH0134	Special Cycle Baghouse	PM	0.6	2.7
		PM_{10}	0.6	2.7
405BH1035	Nuisance Dust Collector (Baghouse)	Removed from Service		
405BH0136	Mini-Size Dust Collector (Baghouse)	PM	0.2	0.9
		PM_{10}	0.2	0.9
405EP0233	#2 ESP	PM	25.0	109.5
		PM_{10}	25.0	109.5
		SO_2	1.0	4.4
		VOC	0.2	0.9
		CO	3.7	16.1
		NO_X	19.6	85.8
		HF	58.1	109.5
415BH0401	415-7 Dust Collector (Baghouse)	PM	0.2	1.0
		PM_{10}	0.2	1.0
415BH0402	415-8 Dust Collector (Baghouse)	PM	0.2	1.0
		PM_{10}	0.2	1.0
415BH6191	415-4 Dust Collector	Removed from Service		
415BH6192	415-11 Dust Collector (Baghouse)	PM	0.9	3.5
		PM_{10}	0.9	3.5
415BH6201	#1 3W1 Mini-Collector (Baghouse)	PM	0.2	0.7
		PM_{10}	0.2	0.7
415BH6202	#2 3W1 Mini Collector (Baghouse)	PM	0.2	0.7
		PM_{10}	0.2	0.7
415BH6203	#1 3W2 Mini Collector (Baghouse)	PM	0.2	0.7
		PM_{10}	0.2	0.7
415BH6204	#2 3W2 Mini Collector (Baghouse)	PM	0.2	0.7
		PM_{10}	0.2	0.7
415BH6225	415-9 Dust Collector (Baghouse)	PM	0.5	2.3
		PM_{10}	0.5	2.3
415BH6227	415-10 Dust Collector (Baghouse)	PM	0.3	1.2
		PM_{10}	0.3	1.2
415BH6401	415-12 Dust Collector (Baghouse)	PM	1.9	8.3
		PM_{10}	1.9	8.3

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
415BH6451	415-6 Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.7 0.7
415BH0001	No. 2 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0002	No. 4 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
415BH0003	No. 5 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
415BH0004	No. 7 BIN Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
415BH0005	No. 8 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
415BH0006	No. 10 Bin Discharge Air Slide DC	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0007	No. 11 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0008	No. 13 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0009	No. 15ABin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0010	No. 16 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0011	No. 16A Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0012	No. 17 Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0013	No. 18A Bin Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0014	Air Merge Blender Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
415BH0015	No. 220 Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.3 0.3
415BH0016	No. 223 Discharge Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.3 0.3
415BH0017	Air Merge Blender Feed Air Slide DC (Baghouse)	PM PM_{10}	0.1 0.1	0.3 0.3
415BH0018	No. 9 Bucket elevator DC (Baghouse)	PM PM_{10}	0.1 0.1	0.3 0.3
420BH05	#1 Bagging Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.9 0.9
420BH06	#2 Bagging Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.9 0.9
420BH6193	#1 Air Slide Vent Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.7 0.7

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
420BH6194	#2 Air Slide Vent Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.7 0.7
420BH6260	420-4 Flex Kleen Dust Collector (Baghouse)	PM PM_{10}	2.4 2.4	10.2 10.2
420BH7614	420-3 Dust Collector (Baghouse)	PM PM_{10}	0.3 0.3	1.3 1.3
420BH7801	420-5 Bulk Loading Dust Collector (Baghouse)	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
420BH07	Classifier Dust Collector (Baghouse)	PM PM_{10}	1.8 1.8	7.5 7.5
Calcium Aluminate Cement				
060BH04	Pelletization Feed Tanks	Source Removed from Service		
060BH0285	Raw Mix Dust Collector	Source Removed from Service		
060BH0402	#3 A3 Tank Dust Collector	Source relocated SN-400BH09		
060BH0406	#4 Dust Collector	Source Removed from Service		
060BH0510	#3A Surge Tank Dust Collector	Source Removed from Service		
060BH0528	#3B Surge Tank Dust Collector	Source Removed from Service		
060BH0573	Clinker Dust Collector	Source Removed from Service		
060BH0602	#2 Surge Tank Dust Collector	Source Removed from Service		
060EP0241	#2 Kiln ESP	Source Removed from Service		
435BH0712	Packaging Tank #3 and #4 Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.8 0.8
435BH0754	#4 Blender Dust Collector (Baghouse)	PM PM_{10}	0.2 0.2	0.8 0.8
435BH0760	#5 Blender Dust Collector	Source relocated to 451BH0760		
435BH0770	Rework System Dust Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
Tabular				
425AUC01	Bulk Loading Station (trucks) beneath 425A Dense Phase Pump feed tank (Baghouse)	PM PM_{10}	0.2 0.2	0.9 0.9
425BH01	Low Iron Tabular (Baghouse)	PM PM_{10}	0.5 0.5	2.1 2.1

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
425BH02	High Iron Tabular (Baghouse)	PM	1.5	6.4
		PM_{10}	1.5	6.4
425BH03	Ground Ore Collection (Baghouse)	PM	1.0	4.2
		PM_{10}	1.0	4.2
425BH04	Bulk Loading Dust Collector 4th Floor (Baghouse)	PM	0.5	2.3
		PM_{10}	0.5	2.3
425BH05	Nuisance CM Dust Collector (Baghouse)	PM	2.4	10.5
		PM_{10}	2.4	10.5
425BH06	#1 Ceramic Mill Dust Collector (Baghouse)	PM	2.4	10.5
		PM_{10}	2.4	10.5
425BH07	425A DPP Collector (Baghouse)	PM	0.4	1.5
		PM_{10}	0.4	1.5
425BH08	T-1 Mill Dust Collector (Baghouse)	PM	0.3	1.3
		PM_{10}	0.3	1.3
425BH09	Ground Ore Bin Vents Dust Collector	PM	0.4	1.4
		PM_{10}	0.4	1.4
425BH1003	325 Tabular Ceramic Mill (Baghouse)	PM	0.6	2.5
		PM_{10}	0.6	2.5
425BH1037	Ground Ore Dust Collector (Baghouse)	PM	0.7	3.0
		PM_{10}	0.7	3.0
425BH3343	8th Floor Flex-Kleen Dust Collector (Baghouse)	PM	1.5	6.4
		PM_{10}	1.5	6.4
425EP04	#8 Converter/Dryer (ESP)	PM	23.0	100.7
		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	#2 Ceramic Mill Dust Collector (Baghouse)	PM	0.8	3.5
		PM_{10}	0.8	3.5
426BH1035	#8 Ball Former Dust Collector	Source relocated to 405BH1035		
426BH1045	#3 Ceramic Mill Dust Collector (Baghouse)	PM	1.4	6.0
		PM_{10}	1.4	6.0
426BH3311	#1 Tabular Dust Collector (Baghouse)	PM	1.4	6.1
		PM_{10}	1.4	6.1
426BH3314	#2 Tabular Dust Collector (Baghouse)	PM	2.3	9.8
		PM_{10}	2.3	9.8
426BH3317	#3 Tabular Dust Collector (Baghouse)	PM	2.2	9.6
		PM_{10}	2.2	9.6
426BH3320	#4 Tabular Dust Collector (Baghouse)	PM	2.2	9.6
		PM_{10}	2.2	9.6
426BH5015	Ground Ore Dust Collector (Baghouse)	PM	1.3	5.6
		PM_{10}	1.3	5.6
426BH5041	Unground Ore Dust Collector (Baghouse)	PM	1.3	5.6
		PM_{10}	1.3	5.6

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
426BH5044	12-1 Bin Dust Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
426BH5045	Bulk Loading Dust Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
426BH7086	Boric Acid Collector (Baghouse)	PM PM_{10}	0.3 0.3	1.1 1.1
426EP06	#11 & #12 Converter/Dryer (ESP)	PM PM_{10} SO_2 VOC CO NO_X	23.0 23.0 1.0 0.2 21.9 40.5	100.7 100.7 4.4 0.6 95.9 177.4
426EP07	#13 & #14 Converter/Dryer (ESP)	PM PM_{10} SO_2 VOC CO NO_X	23.0 23.0 1.0 0.2 21.9 40.5	100.7 100.7 4.4 0.6 95.9 177.4
Electronic Packaging				
141BH01	Milled Product Collector Building 141 (Baghouse)	PM PM_{10}	0.3 0.3	1.2 1.2
141BH02	Glass Frit/Fines Collectors	Removed from Service		
141BH03	Nuisance Collector	Removed from Service		
141BH04	Mill Feed Tank Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.2 0.2
141BH05	#1 Classifier Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.3 0.3
141BH06	#2 Classifier Collector (Baghouse)	PM PM_{10}	0.1 0.1	0.1 0.1
Miscellaneous Sources				
MISC	Storage Piles and Haul Roads	PM PM_{10}	22.2 22.2	3.7 3.7

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

**VOC and Formaldehyde lb/hour and tpy limits are bubbled for SN-451BH011 & SN-451BH014.

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 September 15, 1993.

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 December 12, 1997 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 hydral 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 hydral 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 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 were 050BH07 and 051BH08, and were being added to the Calcined Alumina Sources. The emission rates for 060EP0241 in the Calcium Alumate section of this permit were changed.

Permit 1527-AOP-R3 was issued on May 22, 2001. This modification added a new flash dryer, SN-451BH015. The dryer is subject to NSPS Subpart UUU. CO2 injection used instead of HCl leaching in the Calcined Aluminas Production Process was utilized. Alcoa requested HCl emissions in the permit to allow them to change between the two systems at a future date. The HCl testing requirements changed to within 60 days of the date HCl usage is resumed. Also the AlF3 feed rates 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 No. 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 No. 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 on July 25, 2002. This permit modification allowed returning to its original feed rate of aluminum fluoride in sources 405EP0133 and 405EP0233. This will increased hourly emissions of hydrogen fluoride. The permit had the same annual limits for these sources. A plant wide 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 was four small baghouses which will exhaust sources from Building 426. Total emissions from these baghouses are estimated at 2.25 tons per year.

Permit 1527-AOP-R5 was issued on July 21, 2005. This permit was 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.

Permit 1527-AOP-R6 was issued on November 7, 2006. This permit, allowed the modification an existing baghouse (426BH3314) associated with the Tabular Process. The modification included an internal reconfiguration and a switch from filter bags to cartridge type filters. Additionally, a new product recovery system was installed, which included a bucket elevator and screener, with a baghouse (405BH0134) to control emissions, associated with the Calcined Aluminas Production Process. There were no production increases associated with the installation of the new product recovery system and baghouse (405BH0134). Permitted emission increases included 6.4 tpy of PM and PM_{10}.

Permit 1527-AOP-R7 was issued on April 3, 2007. This permit, allowed an on-site bagging operation at Building 451with the following changes: Almatis relocated, utilized, and renumbered an idle baghouse (435BH0760), the #5 Blender Dust Collector. The idle baghouse was renumbered from 435BH0760 to 451BH0760 and was utilized in Building 451 to control emissions from PGA bagging operations. Almatis requested to remove from service the #5 Storage Bin Dust Collector (400BH01) was removed from building 400 due to the end of its service life. Additionally, baghouse (60BH0402) was relocated to replace the baghouse being removed from service. After relocation of the idle baghouse, was renumbered from 60BH0402 to 400BH09. This modification allowed relocation of an idle baghouse (426BH1035) from building 426 to building 405 for dust control and renamed it 405BH1035 for the prevention of nuisance dust emitted from the kiln seals from collecting on the burner floor and surrounding area. The permitted emissions increased by 2.2 tpy of PM and PM_{10}.

Permit 1527-AOP-R8 was issued on October 16, 2007. A new classifier system was installed and operated the new classifier system at Building 420. The system included a classifier, a cyclone, a dust collector, and three air sides. Three new pickup points were installed on each of the three air slides, and nuisance dust associated with the air slides are collected with an existing dust collector (420BH6260). All other dust associated with the classifier system is controlled by a new dust collector. For the proposed minor modification the permitted emissions increased by 0.4 tpy of PM and PM_{10}. A new material was tested for its silane coated products operations. This activity was permitted at SN-143FHE01. The permitted emissions increased by 9.5 tpy of VOC and 0.02 tpy formaldehyde. Additionally, the Nuisance Dust Collector (SN-405BH1035) was removed from the operation.

Permit 1527-AOP-R9 was issued on March 26, 2008. Almatis requested to install and operate a new Mini-Size Dust Collector SN-405BH0136 on the dust return airslide conveyor (ASCs) to the No. 1 Kiln at Building 405A. The permitted emission rates increase associated with the installation of SN-405BH0136 was 0.9 ton per year (tpy) PM/PM_{10}. A blower for H-700 spray dryer dust collector SN-451BH014 was replaced. The permitted emission rates increased 0.7 ton per year (tpy) PM/PM_{10}. NO_X hourly emission rates were corrected for SN-405BH0133 and SN-405EP0233 from 16.6 lb/hr to 19.6 lb/hr in the current permit. SN-405BH0135 corrected to SN-405BH1035 in the Specific Condition No. 18. The emission limit for dryer 0.025 grams/dscm corrected to 0.025 grains/dscf in Specific Condition No. 6 of the permit.

Permit 1527-AOP-R10 was issued on June 10, 2008. Almatis submitted an application for a minor modification to Permit #1527-AOP-R9. Almatis requested authorization to:

- install and operate eighteen (18) Mini-Size Dust Collectors and fans (SN-415BH0001 through SN-415BH0018),
- revise the nuisance dust collection ducting from the No. 11 dust collector to the No. 5 bucket elevator and the associated feed input belt conveyor and screener, and
- Remove No.4 baghouse dust collector (SN-415BH6191) and reduce the capacity of the No. 11 dust collector (SN-415BH6192) from 12,300 to 7,500 ACFM.

The new eighteen (18) Mini-Size Dust Collectors resulted in an increase of PM/ PM_{10} emissions by 2.6 tpy. However, removal of SN-425BH6191 and reducing the capacity of SN-415BH6192 resulted in a decrease of PM/ PM_{10} emissions by 6.5 tpy. The permitted emissions decreased due to this modification 4.6 tpy of PM and 2.8 PM_{10}.

Permit 1527-AOP-R10 was issued on March 23, 2009. Almatis requested approval to increase the NO_X emission limits for SN-426EP06 and SN-426EP07 based on the stack test results of the samples May 2008. This modification results in a total increase of 82.4 tpy. The increase amount is above PSD threshold limit of 40.0 tpy. However, according to 40 CFR 52.21(b)(2)(i), this modification is not involved any physical change or change in the method of the operation. In addition, since SN-426EP06 and SN-426EP07 were installed in 1967 which is before the PSD regulation was effective, these sources are qualified to be grandfathered sources. Therefore, PSD does not apply for these modifications.

Additionally, Almatis submitted an application for a minor modification to Permit #1527-AOP-R10. Almatis requested an authorization to adjust the emission limit for the new classifier system (SN-420BH07) at Building 420. This adjustment was necessary because the classifier was incorrectly sized by the vendor. The permitted emissions are increasing in PM/ PM_{10} by 7.1 tons per year (tpy).

Permit 1527-AOP-R11 was issued on March 23, 2009. Almatis requested approval to increase the NO_X emission limits for SN-426EP06 and SN-426EP07 based on the stack test results of the samples May 2008. This modification results in a total increase of 82.4 tpy. The increase amount is above PSD threshold limit of 40 tpy. However, according to 40 CFR 52.21(b)(2)(i), this modification is not involved any physical change or change in the method of the operation. In addition, since SN-426EP06 and SN-426EP07 were installed in 1967 which is before the PSD regulation was effective, these sources are qualified to be grandfathered sources. Therefore, PSD did not apply for these modifications.

Additionally, Almatis submitted another application and requested an authorization to adjust the emission limit for the new classifier system at Building 420, SN-420BH07. This adjustment was necessary because the classifier was incorrectly sized by the vendor. The permitted emissions were increased in PM/PM_{10} by 7.1 tons per year (tpy).

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, 143, 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, back-mixed 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 bulk loaded into railcars for transport to

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 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.

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.

Product development research and new material testing are conducted at Building 143. The emissions associated with the new material testing will be collected by a fume hood exhaust fan and discharged on the north side of the building (SN-143FHE01). The new material does not generate any particulate matter emissions, but will generate VOC and HAP emissions. The facility will produce a maximum of 2.0 million pounds of coated products as new material.

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, Almatis 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

1. 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 No. 4, 5, 8, 13, and 15 and Plantwide Conditions No. 5 and 7. [Regulation 19, §19.501,and 40 CFR Part 52, Subpart E]

Source	Description	Pollutant	lb/hr	tpy
045BH69	BV-69 Alumina Storage D/C	PM_{10}	0.1	0.1
045BH70	BV-70 Alumina Storage D/C	PM_{10}	0.1	0.1
045BH87	Magnesium Oxide Storage D/C	PM_{10}	0.1	0.2
045BH88	Quick Lime Storage D/C	PM_{10}	0.1	0.2
046BL01	Package Boiler #1 (Natural Gas Fuel)	PM_{10} SO_2 VOC CO NO_X	0.3 0.1 0.3 3.3 3.9	1.3 0.1 1.0 14.4 17.1
046BL02	Package Boiler #2 (Natural Gas Fuel)	PM_{10} SO_2 VOC CO NO_X	0.3 0.1 0.3 3.3 3.9	1.3 0.1 1.0 14.4 17.1
046BL03	Package Boiler #3 (Natural Gas Fuel)	PM_{10} SO_2 VOC CO NO_X	0.3 0.1 0.3 3.3 3.9	1.3 0.1 1.0 14.4 17.1
046BL04	Package Boiler #4 (Natural Gas Fuel)	PM_{10} SO_2 VOC CO NO_X	0.3 0.1 0.3 3.3 3.9	1.3 0.1 1.0 14.4 17.1
046BL05	Package Boiler #5 (Natural Gas Fuel)	PM_{10} SO_2 VOC CO NO_X	0.3 0.1 0.3 3.3 3.9	1.3 0.1 1.0 14.4 17.1
143FHE01	Spray Dryer	VOC	16.1	9.5
400BH01	Removed from service (2006)			
400BH02	Bulk Loading Dust Collector	PM_{10}	1.1	4.8
400BH03	#2 Storage Tank Dust Collector	PM_{10}	1.4	6.0
400BH04	#1 Storage Tank Dust Collector	PM_{10}	0.2	1.0
400BH05	#3A Storage Tank Dust Collector	PM_{10}	0.2	1.0
400BH06	#3B Storage Tank Dust Collector	PM_{10}	0.2	1.0
400BH07	#4 Storage Tank Dust Collector	PM_{10}	0.2	1.0

Source	Description	Pollutant	lb/hr	tpy
400BH08	#Rework Tank Dust Collector	PM_{10}	0.1	0.1
400BH09	# Storage Bin Dust Collector	PM_{10}	0.4	1.5
400SB01	#1 Dryer (Cyclone /Scrubber)	PM_{10}	0.7	3.1
400SB02	#2 Dryer (Cyclone /Scrubber)	PM_{10}	0.7	3.1
400SB03	#3 Dryer (Cyclone /Scrubber)	PM_{10}	0.7	3.1
410BH01	#1 Dust Collector (Baghouse)	PM_{10}	0.6	2.3
410BH02	#2 Mikro Pulsarie Dust Collector (Baghouse)	PM_{10}	0.6	2.3
410BH03	Nuisance Dust, #3 Grinding (Baghouse)	PM_{10}	0.2	0.9
410BH04	Bin Vent #1 Feed Tank (Baghouse)	PM_{10}	0.1	0.1
410BH05	Bin Vent #2 Feed Tank (Baghouse)	PM_{10}	0.1	0.1
410BH06	#2 Product Tank Dust Collector (Baghouse)	PM_{10}	0.3	1.2
451BH01	#1 Product Bin Vent Dust Collector (Baghouse)	PM_{10}	0.1	0.1
451BH03	H-700 Dust Collector (Baghouse)	PM_{10}	0.3	1.2
451BH04	Ground Gel Collector (Baghouse)	PM_{10}	0.3	1.2
451BH05	Spray Dryer Nuisance Dust Collector (Baghouse)	PM_{10}	0.5	1.9
451BH06	Hydrate Bulk Nuisance Dust Collector (Baghouse)	PM_{10}	0.2	0.8
451BH07	Spray Dryer Nuisance Dust Collector (Baghouse)	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	Jet Mill Feed Tank Dust Collector (Baghouse)	PM_{10}	0.2	0.9
451BH09	Jet Mill Product Tank Dust Collector (Baghouse)	PM_{10}	0.2	0.8
451BH010	CX200S Nuisance Dust Collector (Baghouse)	PM_{10}	0.8	3.5
451BH011	Auxiliary Spray Dust Collector	PM_{10} SO_2 VOC CO NO_X	1.3 1.0 52.1* 0.3 0.3	5.6 4.4 40* 1.1 1.3
451BH012	#4 Bin Vent Dust Collector (Baghouse)	PM_{10}	0.6	2.5
451BH013	#1 Bin Vent Dust Collector (Baghouse)	PM_{10}	0.1	0.5
451BH014	H-700 Spray Dryer Dust Collector	PM10 SO2 CO NOX	5.2 1.0 0.8 0.9	22.6 4.4 3.3 3.9
451BH011	Auxiliary Spray Dryer D/C	VOC	52.1*	40*
451BH014	H-700 Spray Dryer Dust Collector	Formaldehyde	0.01*	0.05*
451BH015	Flash Dryer	PM_{10} SO_2 VOC CO NO_X	2.5 0.1 0.1 1.4 1.6	10.9 0.1 0.4 5.9 7.1
451BH016	Pump Surge Hopper Baghouse	PM_{10}	0.1	0.1
451BH0760	PGA Bagging Baghouse	PM_{10}	1.3	5.5

* Bubbled Emission includes SN-451BH011 and SN-451BH014

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 No. 4, 8, 13, and 15 and Plantwide Conditions No. 5 and 7. [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	Description	Pollutant	lb/hr	tpy
045BH69	BV-69 Alumina Storage D/C	PM	0.1	0.1
045BH70	BV-70 Alumina Storage D/C	PM	0.1	0.1
045BH87	Magnesium Oxide Storage D/C	PM	0.1	0.2
045BH88	Quick Lime Storage D/C	PM	0.1	0.2
046BL01	Package Boiler #1 (Natural Gas Fuel)	PM	0.3	1.3
046BL02	Package Boiler #2 (Natural Gas Fuel)	PM	0.3	1.3
046BL03	Package Boiler #3 (Natural Gas Fuel)	PM	0.3	1.3
046BL04	Package Boiler #4 (Natural Gas Fuel)	PM	0.3	1.3
046BL05	Package Boiler #5 (Natural Gas Fuel)	PM	0.3	1.3
143FHE01	Spray Dryer	Formaldehyde	0.02	0.02
400BH01	Removed from Service (2006)			
400BH02	Bulk Loading Dust Collector	PM	1.1	4.8
400BH03	#2 Storage Tank Dust Collector	PM	1.4	6.0
400BH04	#1 Storage Tank Dust Collector	PM	0.2	1.0
400BH05	#3A Storage Tank Dust Collector	PM	0.2	1.0
400BH06	#3B Storage Tank Dust Collector	PM	0.2	1.0
400BH07	#4 Storage Tank Dust Collector	PM	0.2	1.0
400BH08	#Rework Tank Dust Collector	PM	0.1	0.1
400BH09	# Storage Bin Dust Collector	PM	0.4	1.5
400SB01	#1 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
400SB02	#2 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
400SB03	#3 Dryer (Cyclone /Scrubber)	PM	0.7	3.1
410BH01	#1 Dust Collector (Baghouse)	PM	0.6	2.3
410BH02	#2 Mikro Pulsarie Dust Collector (Baghouse)	PM	0.6	2.3
410BH03	Nuisance Dust, #3 Grinding (Baghouse)	PM	0.2	0.9
410BH04	Bin Vent #1 Feed Tank (Baghouse)	PM	0.1	0.1
410BH05	Bin Vent #2 Feed Tank (Baghouse)	PM	0.1	0.1
410BH06	#2 Product Tank Dust Collector (Baghouse)	PM	0.3	1.2
451BH01	#1 Product Bin Vent Dust Collector (Baghouse)	PM	0.1	0.1
451BH03	H-700 Dust Collector (Baghouse)	PM	0.3	1.2
451BH04	Ground Gel Collector (Baghouse)	PM	0.3	1.2
451BH05	Spray Dryer Nuisance Dust Collector (Baghouse)	PM	0.5	1.9
451BH06	Hydrate Bulk Nuisance Dust Collector (Baghouse)	PM	0.2	0.8
451BH07	Spray Dryer Nuisance Dust Collector (Baghouse)	PM	0.5	1.9
451BH08	Jet Mill Feed Tank Dust Collector (Baghouse)	PM	0.2	0.9
451BH09	Jet Mill Product Tank Dust Collector (Baghouse)	PM	0.2	0.8
451BH010	CX200S Nuisance Dust Collector (Baghouse)	PM	0.8	3.5
451BH011	Auxiliary Spray Dust Collector (Baghouse)	PM	1.3	5.6
		Formaldehyde	0.01*	0.05*
451BH012	#4 Bin Vent Dust Collector (Baghouse)	PM	0.6	2.5
451BH013	#1 Bin Vent Dust Collector (Baghouse)	PM	0.1	0.5

Source	Description	Pollutant	lb/hr	tpy
451BH014	H-700 Spray Dryer Dust Collector (Baghouse)	PM	5.2	22.6
		Formaldehyde	0.01*	0.05*
451BH015	Flash Dryer	PM	4.0	17.8
451BH016	Pump Surge Hopper Baghouse	PM	0.1	0.1
451BH0760	PGA Bagging Baghouse	PM	1.3	5.5

* Bubbled Emission includes SN-451BH011 and SN-451BH014

3. The permittee shall maintain records of the amount of natural gas combusted in each of the package boilers (SN-046BL01 through SN-046BL05) during each month. These records shall be updated by the fifteenth day of the month following the month which the records represent, kept onsite, made available to the Department upon request, and submitted in accordance with General Provision 7 [§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 five package boilers (SN-046BL01 - 046BL05) 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 No. 3. [§19.702 and 40 CFR Part 52 Subpart E]

6. Particulate emissions from the auxiliary spray dryer, SN-451BH011, and the flash dryer, SN-451BH015, shall not exceed 0.057 grams/dscm (0.025 gr/dscf). 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 the Department personnel upon request. Continued compliance with this condition will be demonstrated by compliance with Plantwide Condition No. 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 SN-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 No. 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 combined for SN-451BH011 and SN-451BH014 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

No. 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]

9. The permittee shall maintain records of the amount of silane coated alumina trihydrate produced during each calendar month. These records shall updated by the fifteenth day of the month following the month the records represent, be kept onsite, made available to Department personnel upon request, and submitted 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]

10. The permittee shall conduct an initial performance test for PM emissions from the PGA Bagging Baghouse (SN-451BH0760) and the #5 Storage Bin Dust Collector (SN-400BH09) as required by 40 CFR Part 60 Subpart A §60.8. [§19.702, A.C.A.§8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart A §60.8]

11. On and after the date on which the performance test required to be conducted by §60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any stack emissions that: [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (a)(1)(2)]

    a. Contain particulate matter in excess of 0.05 g/dscm (0.02 gr/dscf); and

    b. Exhibit greater than 7% opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device.

12. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operate, but not later than 180 days after initial startup, the permittee shall not cause to be discharged into the atmosphere from an affected facility (451BH0760 and 400BH09) any process fugitive emissions that exhibit greater than 10% opacity. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (b)] The initial performance tests for sources 451BH0760 and 400BH09 were performed over a two day period on June 27 and June 29, 2007.

13. The permittee shall determine compliance with the particulate matter standards in Specific Conditions No. 11 and 12 as follows:

    a. Method 5 or 17 shall be used to determine the particulate matter concentration. The sample volume for each run shall be at least 1.70 dscm (60 dscf). The sampling probe and filter holder of Method 5 may be operated without heaters if the gas stream being sampled is at ambient temperature. For gas streams above ambient temperature, the Method 5 sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter.

b. Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions and process fugitive emissions. The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.386 (b)]

14. The permittee shall maintain monthly records which demonstrate compliance with the emission rates set forth in Specific Condition No.1 (VOC) and Specific Condition No. 2 (Formaldehyde) for SN-143FHE01. The permittee will maintain a rolling twelve month total for each pollutant. These records shall updated by the fifteenth day of the month following the month the records represent, be kept onsite, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Regulation No. 19 §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311] [Regulation No. 18 §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

15. The permittee will not produce more than 2 million (2,000,000) pounds of silane coated products per consecutive twelve month period at SN-143FHE01. [Regulation 18, §18.1004, Regulation No. 19, §19.705, 40 CFR Part 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

16. The permittee will maintain records of the amount of silane coated products produced at SN-143FHE01. These records will be maintained on a monthly basis and updated no later than the fifteenth day of the month following the month to which the records pertain. The permittee will maintain a rolling twelve month total of the amount of silane coated products produced. These records shall updated by the fifteenth day of the month following the month the records represent, be kept onsite, made available to Department personnel upon request, and submitted in accordance with General Provision 7. [Regulation 18, §18.1004, Regulation No. 19, §19.705, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

CALCINED ALUMINAS PRODUCTION PROCESS

BUILDINGS 50, 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 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 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.

New Product Recovery System

The Special Cycle Baghouse (405BH0134) provides dust control for the new systems pickup points which include a bucket elevator, a screener, a potential future Grinding Mill, and existing conveyors. The source is permitted at maximum capacity.

New classifier system at Building 420 (420BH07):

The system includes a classifier, a cyclone, a dust collector, and three air sides. Three new pickup points will be installed on each of the three air slides, and nuisance dust associated with the air slides will be collected with an existing dust collector (420BH6260). All other dust associated with the classifier system will be controlled by a new dust collector (420BH07). For the proposed minor modification the permitted emissions increase by 0.4 tpy of PM and PM_{10}.

Eighteen (18) mini-size dust collectors (SN-BH0001 through SN-BH0018) and fans will be installed in the Building 415.

Specific Conditions

17. 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 No. 20 and Plantwide Conditions No. 5 and 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Description	Pollutant	lb/hr	tpy
050BH07	#1 Dust Collector (Baghouse)	PM_{10}	0.7	2.8
051BH03	#3 Bin Vent Dust Collector (Baghouse)	PM_{10}	0.1	0.2
051BH04	#3 Bin Vent Dust Collector (Baghouse)	PM_{10}	0.1	0.2
051BH06	#1 Air Slide Dust Collector (Baghouse)	PM_{10}	0.6	2.3
051BH07	#3 Air Slide Dust Collector (Baghouse)	PM_{10}	0.6	2.3
051BH08	#2 Air Slide Dust Collector (Baghouse)	PM_{10}	0.6	2.3
051BH11	Unloading Hopper Airslide Dust Collector (Baghouse)	PM_{10}	0.1	0.5
055BH01	#1 Blender Dust Collector (Baghouse)	PM_{10}	1.7	7.5
055BH02	#2 Blender Discharge Dust Collector (Baghouse)	PM_{10}	0.6	2.8
055BH03	Nuisance Dust Collector (Baghouse)	PM_{10}	1.1	4.7
055BM01	Batch Ball Mill	VOC	2.5	11.0
405BH03	Building 405B Nuisance Dust Collector	Exhaust into Building		
405BH04	#4 Alumina Transport Dust Collector (Baghouse)	PM_{10}	0.7	2.8
405BH05	#5 Alumina Transport Dust Collector (Baghouse)	PM_{10}	0.7	2.8
405BH06	#6 Alumina Transport Dust Collector (Baghouse)	PM_{10}	0.7	2.8
405BH0308	#1 Blender Collector	PM_{10}	0.1	0.1
405BH0309	#2 Blender Collector	PM_{10}	0.1	0.1
405BH0310	#1 High Tank Dust Collector (Baghouse)	PM_{10}	0.1	0.1
405BH0312	#1 Lift System Dust Collector (Baghouse)	PM_{10}	0.5	2.2
405BH0133	#1 Baghouse	PM_{10} SO_2 VOC CO NO_X	14.6 1.0 0.2 3.7 19.6	64.0 4.4 0.9 16.1 85.8

Source	Description	Pollutant	lb/hr	tpy
405BH0134	Special Cycle Baghouse	PM_{10}	0.6	2.7
405BH1035	Nuisance Dust Collector	Removed from Service		
405BH0136	Mini-Size Dust Collector (Baghouse)	PM_{10}	0.2	0.9
405EP0233	#2 ESP	PM_{10}	25.0	109.5
		SO_2	1.0	4.4
		VOC	0.2	0.9
		CO	3.7	16.1
		NO_X	19.6	85.8
415BH0401	415-7 Dust Collector (Baghouse)	PM_{10}	0.2	1.0
415BH0402	415-8 Dust Collector (Baghouse)	PM_{10}	0.2	1.0
415BH6191		Removed from Service		
415BH6192	415-11 Dust Collector (Baghouse)	PM_{10}	0.9	3.5
415BH6201	#1 3W1 Mini-Collector (Baghouse)	PM_{10}	0.2	0.7
415BH6202	#2 3W1 Mini Collector (Baghouse)	PM_{10}	0.2	0.7
415BH6203	#1 3W2 Mini Collector (Baghouse)	PM_{10}	0.2	0.7
415BH6204	#2 3W2 Mini Collector (Baghouse)	PM_{10}	0.2	0.7
415BH6225	415-9 Dust Collector (Baghouse)	PM_{10}	0.5	2.3
415BH6227	415-10 Dust Collector (Baghouse)	PM_{10}	0.3	1.2
415BH6401	415-12 Dust Collector (Baghouse)	PM_{10}	1.9	8.3
415BH6451	415-6 Dust Collector (Baghouse)	PM_{10}	0.2	0.7
415BH0001	No. 2 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0002	No. 4 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.1
415BH0003	No. 5 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.1
415BH0004	No. 7 BIN Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.1
415BH0005	No. 8 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.1
415BH0006	No. 10 Bin Discharge Air Slide DC	PM_{10}	0.1	0.2
415BH0007	No. 11 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0008	No. 13 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0009	No. 15ABin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0010	No. 16 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0011	No. 16A Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0012	No. 17 Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0013	No. 18A Bin Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0014	Air Merge Blender Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.2
415BH0015	No. 220 Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.3
415BH0016	No. 223 Discharge Air Slide DC (Baghouse)	PM_{10}	0.1	0.3
415BH0017	Air Merge Blender Feed Air Slide DC (Baghouse)	PM_{10}	0.1	0.3
415BH0018	No. 9 Bucket elevator DC(Baghouse)	PM_{10}	0.1	0.3
420BH05	#1 Bagging Dust Collector (Baghouse)	PM_{10}	0.2	0.9
420BH06	#2 Bagging Dust Collector (Baghouse)	PM_{10}	0.2	0.9
420BH07	#3 Bagging Dust Collector (Baghouse)	PM_{10}	1.8	7.5
420BH6193	#1 Air Slide Vent Dust Collector (Baghouse)	PM_{10}	0.2	0.7
420BH6194	#2 Air Slide Vent Dust Collector (Baghouse)	PM_{10}	0.2	0.7
420BH6260	420-4 Flex Kleen Dust Collector (Baghouse)	PM_{10}	2.4	10.2
420BH7614	420-3 Dust Collector (Baghouse)	PM_{10}	0.3	1.3
420BH7801	420-5 Bulk Loading Dust Collector (Baghouse)	PM_{10}	0.5	2.1
420ABH7714	420A-2 Coarse Dust Collector (Baghouse)	PM_{10}	0.3	1.1

Source	Description	Pollutant	lb/hr	tpy
420ABH7716	420A-3 Fines Dust Collector (Baghouse)	PM_{10}	0.4	1.8
420ABH7810	Norblo XFER Dust Collector (Baghouse)	PM_{10}	0.3	1.1
420ABH7811	#7 Product Tank Dust Collector (Baghouse)	PM_{10}	0.3	1.4
420ABH7851	Majac Dust Collector (Baghouse)	PM_{10}	1.0	4.4

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 Condition 20 and Plantwide Conditions 5 and 7. [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	Description	Pollutant	lb/hr	Tpy
050BH07	#1 Dust Collector (Baghouse)	PM	0.7	2.8
051BH03	#3 Bin Vent Dust Collector (Baghouse)	PM	0.1	0.2
051BH04	#3 Bin Vent Dust Collector (Baghouse)	PM	0.1	0.2
051BH06	#1 Air Slide Dust Collector (Baghouse)	PM	0.6	2.3
051BH07	#3 Air Slide Dust Collector (Baghouse)	PM	0.6	2.3
051BH08	#2 Air Slide Dust Collector (Baghouse)	PM	0.6	2.3
051BH11	Unloading Hopper Airslide Dust Collector (Baghouse)	PM	0.1	0.5
055BH01	#1 Blender Dust Collector (Baghouse)	PM	1.7	7.5
055BH02	#2 Blender Discharge Dust Collector (Baghouse)	PM	0.6	2.8
055BH03	Nuisance Dust Collector (Baghouse)	PM	1.1	4.7
055BM01	Batch Ball Mill	Diethanolamine	0.4	1.5
405BH03	Exhaust into Building			
405BH04	#4 Transport Dust Collector	PM	0.7	2.8
405BH05	#5 Alumina Transport Dust Collector (Baghouse)	PM	0.7	2.8
405BH06	#6 Alumina Transport Dust Collector (Baghouse)	PM	0.7	2.8
405BH0308	#1 Blender Collector	PM	0.1	0.1
405BH0309	#2 Blender Collector	PM	0.1	0.1
405BH0310	#1 High Tank Dust Collector (Baghouse)	PM	0.1	0.1
405BH0312	#1 Lift System Dust Collector (Baghouse)	PM	0.5	2.2
405BH0133	#1 Baghouse Special Cycle Baghouse	PM	14.6	64.0
405BH0134	Special Cycle Baghouse	PM	0.6	2.7
405BH1035	Nuisance Dust Collector	Removed from Service		
405BH0136	Mini-Size Dust Collector (Baghouse)	PM	0.2	0.9
405EP0233	#2 ESP	PM	25.0	109.5
415BH0401	415-7Dust Collector	PM	0.2	1.0
415BH0402	415-8 Dust Collector (Baghouse)	PM	0.2	1.0
415BH6191	415-11 Dust Collector (Baghouse)	Removed from Service		
415BH6192	415-11 Dust Collector (Baghouse)	PM	0.9	3.5
415BH6201	#1 3W1 Mini-Collector (Baghouse)	PM	0.2	0.7
415BH6202	#2 3W1 Mini Collector	PM	0.2	0.7
415BH6203	#1 3W2 Mini Collector (Baghouse)	PM	0.2	0.7

Source	Description	Pollutant	lb/hr	Tpy
415BH6204	#2 3W2 Mini Collector (Baghouse)	PM	0.2	0.7
415BH6225	415-9 Dust Collector (Baghouse)	PM	0.5	2.3
415BH6227	415-10 Dust Collector (Baghouse)	PM	0.3	1.2
415BH6401	415-12 Dust Collector (Baghouse)	PM	1.9	8.3
415BH6451	415-6 Dust Collector (Baghouse)	PM	0.2	0.7
415BH0001	No. 2 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0002	No. 4 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.1
451BH0003	No. 5 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.1
415BH0004	No. 7 BIN Discharge Air Slide DC (Baghouse)	PM	0.1	0.1
415BH0005	No. 8 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.1
415BH0006	No. 10 Bin Discharge Air Slide DC	PM	0.1	0.2
415BH0007	No. 11 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0008	No. 13 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0009	No. 15ABin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0010	No. 16 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0011	No. 16A Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0012	No. 17 Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0013	No. 18A Bin Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0014	Air Merge Blender Discharge Air Slide DC (Baghouse)	PM	0.1	0.2
415BH0015	No. 220 Discharge Air Slide DC (Baghouse)	PM	0.1	0.3
415BH0016	No. 223 Discharge Air Slide DC (Baghouse)	PM	0.1	0.3
415BH0017	Air Merge Blender Feed Air Slide DC (Baghouse)	PM	0.1	0.3
415BH0018	No. 9 Bucket elevator DC (Baghouse)	PM	0.1	0.3
420BH05	#1 Bagging D/C (Baghouse)	PM	0.2	0.9
420BH06	#2 Bagging D/C (Baghouse)	PM	0.2	0.9
420BH07	#3 Bagging D/C (Baghouse)	PM	01.8	7.5
420BH6193	#1 Air Slide Vent Dust Collector (Baghouse)	PM	0.2	0.7
420BH6194	#2 Air Slide Vent Dust Collector Baghouse)	PM	0.2	0.7
420BH6260	420-4 Flex Kleen Dust Collector (Baghouse)	PM	2.4	10.2

Source	Description	Pollutant	lb/hr	Tpy
420BH7614	420-3 Dust Collector (Baghouse)	PM	0.3	1.3
420BH7801	420-5 Bulk Loading Dust Collector (Baghouse)	PM	0.5	2.1
420ABH7714	420A-2 Coarse Dust Collector Baghouse)	PM	0.3	1.1
420ABH7716	420A-3 Fines Dust Collector (Baghouse)	PM	0.4	1.8
420ABH7810	Norblo XFER Dust Collector (Baghouse)	PM	0.3	1.1
420ABH7811	#7 Product Tank Dust Collector (Baghouse)	PM	0.3	1.4
420ABH7851	Majac Dust Collector (Baghouse)	PM	1.0	4.4

19. The permittee shall not exceed the following emission rates. Compliance with these rates shall be demonstrated by compliance with Specific Conditions No. 22 through 24. [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
405BH0133	HF	58.1	109.5
405EP0233	HF	58.1	

20. The permittee shall test sources SN-405BH0133 and SN-405EP0233 for PM and PM_{10} using Method 5, by using this method the permittee can assume all PM is PM_{10} or also run test specifically for PM_{10} using methods 201A, CO using Method 10, and NO_X using Method 7E, on an annual basis. This test shall be conducted in accordance with Plantwide Condition No. 3. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition No. 9. [§19.702 and 40 CFR Part 52 Subpart E]

21. SN-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]

22. The permittee shall not exceed a combined aluminum fluoride (AlF_3) feed rate of 127 lb/hr in SN-405BH0133 or SN-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 No. 22. [§18.1004 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

23. 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 SN-405BH0133 or SN-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 fifteenth day of the month following the month which the records represent, kept onsite, 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]

24. The permittee shall test sources SN-405BH0133 and SN-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 No. 3. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition No. 9. [§18.1002 and A.C.A §8-4-203 as referenced by §8-4-304 and §8-4-311]

25. The Classifier Dust Collector SN-420BH07, Mini-Size Dust Collector SN-405BH0136, H-700 Spray Dryer Dust Collector SN-451BH014, and Bin Discharge Air Slide Dust Collectors SN-415BH0001 through SN-415BH0018 must meet the applicable requirements of 40 CFR 60 Subpart LL (Standards of Performance for Metallic Mineral Processing Plants). [Regulation No. 19 §19.304 and 40 CFR 60 Subpart LL].

26. The permittee shall conduct an initial performance test for PM emissions from SN-420BH07; SN-405BH0136; SN-451BH014; one source from the group of 415 BH02, 415 BH03, 415 BH04 or 415 BH05; one source from the group of 415 BH01, 415 BH06, 415 BH07, 415 BH09, 415 BH11, 415 BH12, 415 BH13 or 415 BH14; one source from the group of 415 BH08 or 415 BH10; 415 BH15 and one source from the group of 415 BH16, 415 BH17 or 415 BH18 as required by 40 CFR Part 60 Subpart A §60.8. [§19.702, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart A §60.8]

27. On and after the date on which the performance test required to be conducted by §60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any stack emissions that:

    a. Contain particulate matter in excess of 0.05 g/dscm (0.02 gr/dscf); and

    b. Exhibit greater than 7% opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (a)(1)(2)]

28. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operate, but not later than 180 days after initial startup, the permittee shall not cause to be discharged into the atmosphere from an affected facility SN-405BH0134, SN-420BH07, SN-451BH014, SN-405BH0136, and SN-415BH0001

through SN-415BH0018 and any process fugitive emissions that exhibit greater than 10% opacity. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (b)]

29. The permittee shall determine compliance with the particulate matter standards in Specific Conditions No. 27.a and 27.b as follows:

    a. Method 5 or 17 shall be used to determine the particulate matter concentration. The sample volume for each run shall be at least 1.70 dscm (60 dscf). The sampling probe and filter holder of Method 5 may be operated without heaters if the gas stream being sampled is at ambient temperature. For gas streams above ambient temperature, the Method 5 sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter.

    b. Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions and process fugitive emissions. The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.386 (b)]

30. Visible emissions may not exceed the limits specified in the Appendix A (opacity survey table) of this permit as measured by EPA Reference Method 9. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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 supports 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

31. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by compliance Plantwide Conditions No. 5 and 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Description	Pollutant	lb/hr	tpy
060BH04	Pelletization Feed Tanks	Source Removed from Service		
060BH0285	Raw Mix Dust Collector	Source Removed from Service		
060BH0402	#3 A3 Tank Dust Collector	Source relocated to 400BH09		
060BH0406	Pelletization Feed Tanks	Source Removed from Service		
060BH0510	Raw Mix Dust Collector	Source Removed from Service		
060BH0528	#3 A3 Tank Dust Collector	Source Removed from Service		
060BH0573	Pelletization Feed Tanks	Source Removed from Service		
060BH0602	Raw Mix Dust Collector	Source Removed from Service		
060EP0241	#3 A3 Tank Dust Collector	Source Removed from Service		
435BH0712	Packaging Tank #3 and #4 Dust Collector (Baghouse)	PM_{10}	0.2	0.8
435BH0754	#4 Blender Dust Collector (Baghouse)	PM_{10}	0.2	0.8
435BH0760	#5 Blender Dust Collector	Source relocated to 451BH0760		
435BH0770	Rework System Dust Collector (Baghouse)	PM_{10}	0.1	0.2

32. 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 Conditions No. 5 and 7. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Description	Pollutant	lb/hr	tpy
060BH04	Pelletization Feed Tanks	Source Removed from Service		
060BH0285	Raw Mix Dust Collector	Source Removed from Service		
060BH0402	#3 A3 Tank Dust Collector	Source relocated to 400BH09		
060BH0406	Pelletization Feed Tanks	Source Removed from Service		
060BH0510	Raw Mix Dust Collector	Source Removed from Service		
060BH0528	#3 A3 Tank Dust Collector	Source Removed from Service		
060BH0573	Pelletization Feed Tanks	Source Removed from Service		
060BH0602	Raw Mix Dust Collector	Source Removed from Service		
060EP0241	#3 A3 Tank Dust Collector	Source Removed from Service		
435BH0712	Packaging Tank #3 and #4 Dust Collector (Baghouse)	PM	0.2	0.8
435BH0754	#4 Blender Dust Collector (Baghouse)	PM	0.2	0.8
435BH0760	#5 Blender Dust Collector	Source relocated to 451BH0760		
435BH0770	Rework System Dust Collector (Baghouse)	PM	0.1	0.2

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.

The #2 Tabular Baghouse (426BH3314) has been modified to reduce erosion. The modification includes an internal reconfiguration and switches from filter bags to cartridge type filters.

Specific Conditions

33. 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 No. 35, 36 and 38 and Plantwide Conditions No. 5 and 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Description	Pollutant	lb/hr	tpy
425AUC01	Bulk Loading Station (trucks) beneath 425A Dense Phase Pump feed tank (Baghouse)	PM_{10}	0.2	0.9
425BH01	Low Iron Tabular (Baghouse)	PM_{10}	0.5	2.1
425BH02	High Iron Tabular (Baghouse)	PM_{10}	1.5	6.4
425BH03	Ground Ore Collection (Baghouse)	PM_{10}	1.0	4.2
425BH04	Bulk Loading Dust Collector 4th Floor (Baghouse)	PM_{10}	0.5	2.3
425BH05	Nuisance CM Dust Collector (Baghouse)	PM_{10}	2.4	10.5
425BH06	#1 Ceramic Mill Dust Collector (Baghouse)	PM_{10}	2.4	10.5
425BH07	425A DPP Collector (Baghouse)	PM_{10}	0.4	1.5
425BH08	T-1 Mill Dust Collector (Baghouse)	PM_{10}	0.3	1.3
425BH09	Ground Ore Bin Vents Dust Collector	PM_{10}	0.4	1.4
425BH1003	325 Tabular Ceramic Mill (Baghouse)	PM_{10}	0.6	2.5
425BH1037	Ground Ore Dust Collector (Baghouse)	PM_{10}	0.7	3.0
425BH3343	8th Floor Flex-Kleen Dust Collector (Baghouse)	PM_{10}	1.5	6.4
425EP04	#8 Converter/Dryer (ESP)	PM_{10} SO_2 VOC CO NO_X	23.0 1.0 0.2 2.6 10.0	100.7 4.4 0.6 11.5 43.8

Source	Description	Pollutant	lb/hr	tpy
426BH1032	#2 Ceramic Mill Dust Collector (Baghouse)	PM_{10}	0.8	3.5
426BH1035	#8 Ball Former Dust Collector	Source relocated to 405BH1035		
426BH1045	#3 Ceramic Mill Dust Collector (Baghouse)	PM_{10}	1.4	6.0
426BH3311	#1 Tabular Dust Collector (Baghouse)	PM_{10}	1.4	6.1
426BH3314	#2 Tabular Dust Collector (Baghouse)	PM_{10}	2.3	9.8
426BH3317	#3 Tabular Dust Collector (Baghouse)	PM_{10}	2.2	9.6
426BH3320	#4 Tabular Dust Collector (Baghouse)	PM_{10}	2.2	9.6
426BH5015	Ground Ore Dust Collector (Baghouse)	PM_{10}	1.3	5.6
426BH5041	Unground Ore Dust Collector (Baghouse)	PM_{10}	1.3	5.6
426BH5044	12-1 Bin Dust Collector (Baghouse)	PM_{10}	0.1	0.1
426BH5045	Bulk Loading Dust Collector (Baghouse)	PM_{10}	0.1	0.1
426BH7086	Boric Acid Collector (Baghouse)	PM_{10}	0.3	1.1
426EP06	#11 & #12 Converter/Dryer (ESP)	PM_{10} SO_2 VOC CO NO_X	23.0 1.0 0.2 21.9 40.5	100.7 4.4 0.6 95.9 177.4
426EP07	#13 & #14 Converter/Dryer (ESP)	PM_{10} SO_2 VOC CO NO_X	23.0 1.0 0.2 21.9 40.5	100.7 4.4 0.6 95.9 177.4

34. 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 No. 35, 36 and 38 and Plantwide Conditions No. 5 and 7. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Description	Pollutant	lb/hr	tpy
425AUC01	Bulk Loading Station (trucks) beneath 425A Dense Phase Pump feed tank (Baghouse)	PM	0.2	0.9
425BH01	Low Iron Tabular (Baghouse)	PM	0.5	2.1
425BH02	High Iron Tabular (Baghouse)	PM	1.5	6.4
425BH03	Ground Ore Collection (Baghouse)	PM	1.0	4.2
425BH04	Bulk Loading Dust Collector 4th Floor (Baghouse)	PM	0.5	2.3
425BH05	Nuisance CM Dust Collector (Baghouse)	PM	2.4	10.5
425BH06	#1 Ceramic Mill Dust Collector (Baghouse)	PM	2.4	10.5
425BH07	425A DPP Collector (Baghouse)	PM	0.4	1.5
425BH08	T-1 Mill Dust Collector (Baghouse)	PM	0.3	1.3
425BH09	Ground Ore Bin Vents Dust Collector	PM	0.4	1.4
425BH1003	325 Tabular Ceramic Mill (Baghouse)	PM	0.6	2.5
425BH1037	Ground Ore Dust Collector (Baghouse)	PM	0.7	3.0
425BH3343	8th Floor Flex-Kleen Dust Collector (Baghouse)	PM	1.5	6.4
425EP04	#8 Converter/Dryer(ESP)	PM	23.0	100.7

Source	Description	Pollutant	lb/hr	tpy
426BH1032	#2 Ceramic Mill Dust Collector (Baghouse)	PM	0.8	3.5
426BH1035	#8 Ball Former Dust Collector	Source relocated to 405BH1035		
426BH1045	#3 Ceramic Mill Dust Collector (Baghouse)	PM	1.4	6.0
426BH3311	#1 Tabular Dust Collector (Baghouse)	PM	1.4	6.1
426BH3314	#2 Tabular Dust Collector (Baghouse)	PM	2.3	9.8
426BH3317	#3 Tabular Dust Collector (Baghouse)	PM	2.2	9.6
426BH3320	#4 Tabular Dust Collector (Baghouse)	PM	2.2	9.6
426BH5015	Ground Ore Dust Collector (Baghouse)	PM	1.3	5.6
426BH5041	Unground Ore Dust Collector (Baghouse)	PM	1.3	5.6
426BH5044	12-1 Bin Dust Collector (Baghouse)	PM	0.1	0.1
426BH5045	Bulk Loading Dust Collector (Baghouse)	PM	0.1	0.1
426BH7086	Boric Acid Collector (Baghouse)	PM	0.3	1.1
426EP06	#11 & #12 Converter/Dryer (ESP)	PM	23.0	100.7
426EP07	#13 & #14 Converter/Dryer (ESP)	PM	23.0	100.7

35. The exhaust of the three dryer ESPs (SN-425EP04, SN-426EP06, and SN-426EP07) shall be tested for PM and PM_{10} using Method 5, by using this method the permittee can assume all PM is PM_{10} or also run test specifically for PM_{10} using methods 201A, CO using Method 10, and NO_X using Method 7E, on an annual basis. This test shall be conducted in accordance with Plantwide Condition No. 3 and 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. The testing required in this condition is qualified for the testing interval relaxation provisions of Plantwide Condition No. 9. [§19.702 and 40 CFR Part 52 Subpart E]

*The performance tests for the emissions form SN-426EP06 and SN-426EP07 were performed on June 29, 2010 and June 30, 2010, respectively.

36. 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 No. 36. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6]

37. The permittee shall keep records on the amount of alumina loaded out at SN-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 fifteenth day of the month following the month which the records represent, kept onsite, made available to the Department upon request, and submitted 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]

38. 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]

39. The permittee shall conduct an initial performance test for PM emissions from the #2 Tabular Dust Collector (426BH3314) as required by 40 CFR Part 60 Subpart A §60.8. [§19.702, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart A §60.8]

40. On and after the date on which the performance test required to be conducted by §60.8 is completed, the permittee shall not cause to be discharged into the atmosphere from any stack emissions that:

    a. Contain particulate matter in excess of 0.05 g/dscm (0.02 gr/dscf); and

    b. Exhibit greater than 7% opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device.[§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (a)(1)(2)]

41. On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operate, but not later than 180 days after initial startup, the permittee shall not cause to be discharged into the atmosphere from an affected facility (426BH3314) any process fugitive emissions that exhibit greater than 10% opacity. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.382 (b)] The applicable performance test for source 426BH3314 was performed on December 8, 2007 to demonstrate compliance with 40 CFR Part 60 Subpart LL §60.382(b).

42. The permittee shall determine compliance with the particulate matter standards in Specific Conditions No. 40.a and 40.b as follows:

    a. Method 5 or 17 shall be used to determine the particulate matter concentration. The sample volume for each run shall be at least 1.70 dscm (60 dscf). The sampling probe and filter holder of Method 5 may be operated without heaters if the gas stream being sampled is at ambient temperature. For gas streams above ambient temperature, the Method 5 sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter.

    b. Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions and process fugitive emissions. The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected

facility being observed. [§19.705, A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR Part 60 Subpart LL §60.386 (b)]

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

43. 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 Conditions No. 5 and 7. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

Source	Description	Pollutant	lb/hr	tpy
141BH01	Milled Product Collector Building 141 (Baghouse)	PM_{10}	0.3	1.2
141BH02	Glass Frit/Fines Collectors	Removed from Service		
141BH03	Nuisance Collector	Removed from Service		
141BH04	Mill Feed Tank Collector (Baghouse)	PM_{10}	0.1	0.2
141BH05	#1 Classifier Collector (Baghouse)	PM_{10}	0.1	0.3
141BH06	#2 Classifier Collector (Baghouse)	PM_{10}	0.1	0.1

44. 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 Conditions No. 5 and 7. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Description	Pollutant	lb/hr	tpy
141BH01	Milled Product Collector Building 141 (Baghouse)	PM	0.3	1.2
141BH02	Glass Frit/Fines Collectors	Removed from Service		
141BH03	Nuisance Collector	Removed from Service		
141BH04	Mill Feed Tank Collector (Baghouse)	PM	0.1	0.2
141BH05	#1 Classifier Collector (Baghouse)	PM	0.1	0.3
141BH06	#2 Classifier Collector (Baghouse)	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

45. 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	Description	Pollutant	lb/hr	tpy
MISC	Storage Piles and Haul Roads	PM_{10}	22.2	3.7

46. 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	Description	Pollutant	lb/hr	tpy
MISC	Storage Piles and Haul Roads	PM	22.2	3.7

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 A) 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 A), which shall be kept onsite and available for inspection. Also, records shall be kept onsite 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 and 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-451BH011 and SN-451BH015 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 A), which shall be kept onsite and available for inspection. Also, records shall be kept onsite 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 Condition No. 20, 24, and 35, testing shall be performed on an annual basis in accordance with Plantwide Condition No. 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 No. 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]

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 January 20, 2010.

Emission Source Descrip tion	Reason Insignificant
Open Tanks (2), Building 45C Tanks, filtrate and Beta Product	A-4
Causticization Reactor	A-4
Dump Chute, east side of Building 400	A-13
Dump Chute, middle tank on north side of Building 400	A-13
Clean-Out Chute, southwest corner of Building 410	A-13
Clean-Out Chutes (3), west end of Building 451	A-13
Clean-Out Chute from auger screw, northwest end of Building 451	A-13
Clean-Out Chute to dumpster on ground, west end of Building 55	A-13
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
Clean-Out Chute on northeast corner of Building 425	A-13
Dump Chute to dumpster, east end of dock area on north side of Building 425	A-13
Dump Chute to contained area, west end of dock area on north side of Building 425	A-13
Dump Chute from fourth floor, north side of Building 425	A-13
Dump Chute to contained area on northeast corner of Building 426 to converter wing	A-13
Dump Chute to under bulk loading belt, south side of Building 426 in dock area	A-13

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)]

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.

    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.

    [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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,

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:

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
5301 Northshore Drive
North Little Rock, AR 72118-5317

[40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

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 Regulation19, § 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 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; and
e. 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]

24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:

a. Such an extension does not violate a federal requirement;
b. The permittee demonstrates the need for the extension; and
c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18, §18.314(A), Regulation 19, §19.416(A), Regulation 26, §26.1013(A), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in

the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:

a. Such a request does not violate a federal requirement;
b. Such a request is temporary in nature;
c. Such a request will not result in a condition of air pollution;
d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18, §18.314(B), Regulation 19, §19.416(B), Regulation 26, §26.1013(B), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:

a. The request does not violate a federal requirement;
b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18, §18.314(C), Regulation 19, §19.416(C), Regulation 26, §26.1013(C), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

APPENDIX A
Opacity Survey

OPACITY SURVEY

WEEK OF: **SECTION TO BE READ:**

SN	Process Unit	Permit Opacity	Opacity
MAIN SOURCES			
046BL01	#1 Package Boiler	5[a]	
046BL02	#2 Package Boiler	5[a]	
046BL03	#3 Package Boiler	5[a]	
046BL04	#4 Package Boiler	5[a]	
046BL05	#5 Package Boiler	5[a]	
400SB01	#1 Scrubber	20[a]	
400SB02	#2 Scrubber	20[a]	
400SB03	#3 Scrubber	20[a]	
405BH0133	#1 Baghouse	20[a]	
405BH0134	Special Cycle BH	10[c]	
405BH0136	Baghouse	10c	
405EP0233	#2 ESP	20a	
425EP04	#4 ESP	20[a]	
426EP06	#6 ESP	20[a]	
426EP07	#7 ESP	20[a]	

SN	Process Unit	Permit Opacity	Opacity
SECTION 1			
045BH69	V-69 Alumina D/C	5[a]	
045BH70	BV-70 Alumina D/C	5[a]	
045BH87	Lime Storage D/C	5[a]	
045BH88	MgO Storage D/C	5[a]	
050BH07	#1 Dust Collector	5[a]	
051BH03	#3 Bin Vent D/C	5[a]	
051BH04	#4 Bin Vent D/C	5[a]	
051BH06	#1 Air Slide D/C	5[a]	
051BH07	#3 Air Slide D/C	5[a]	
051BH08	#2 Air Slide D/C	5[a]	
051BH11	Unload Hopper D/C	5[a]	
055BH01	#1 Blender D/C	5[a]	
055BH02	#2 Blender D/C	5a	
055BH03	Nuisance D/C	5a	

SN	Process Unit	Permit Opacity	Opacity
SECTION 2			
141BH01	Milled Product D/C	5[a]	
141BH04	Mill Feed Tank D/C	5[a]	
141BH05	#1 Classifier D/C	5[a]	
141BH06	#2 Classifier D/C	5[a]	
400BH02	Bulk Loading D/C	5[a]	
400BH03	#2 Storage Tank D/C	5[a]	
400BH04	#1 Storage Tank D/C	5[a]	
400BH05	#3A Storage Tank D/C	5[a]	
400BH06	#3B Storage Tank D/C	5[a]	
400BH07	#4 Storage Tank D/C	5[a]	
400BH08	#1 Rework Tank D/C	5a	
400BH09	#5 Storage Bin D/C	10c	

[a]This opacity limit assigned pursuant to §18.501 of Regulation 18, §19.503 of Regulation 19, and 40 CFR Part 52, Subpart E. (Plantwide Condition No. 7)
[b]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart UUU. (Specific Condition No. 6)
[c]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart LL. (Specific Conditions No. 11, 27.b, & 40.b)

SN	Process Unit	Permit Opacity	Weekly Opacity
SECTION 3			
405BH312	#1 Lift System d/c	5[a]	
405BH308	#1 Blender D/C	5[a]	
405BH309	#2 Blender D/C	5[a]	
405BH310	#1 High Tank D/C	5[a]	
405BH03	Bldg 405b nuisance		
405BH04	#4 Alumina D/C	5[a]	
405BH05	#5 Alumina D/C	5[a]	
405BH06	#6 Alumina D/C	5[a]	
410BH01	#1 D/C	5[a]	
410BH02	#2 mic-pulsair D/C	5[a]	
410BH03	Nuisance, #3 Grind	5[a]	
410BH04	Bin Vent #1 Feed	5[a]	
410BH05	Bin Vent #2 Feed	5[a]	
410BH06	#2 Product Tank D/C	5[a]	
415BH6191	415 Air Slides	5[a]	
415BH6451	415-6 D/C	5[a]	
415BH0401	415-7 D/C	5[a]	
415BH0402	415-8 D/C	5[a]	
415BH6225	415-9 D/C	5[a]	
415BH6227	415-20 D/C	5[a]	
415BH6192	415-11 D/C	5[a]	
415BH6401	415-12 D/C	5[a]	
415BH6202	#2 3W1 D/C	5[a]	
415BH6204	#2 3W2 D/C	5[a]	
415BH6201	#1 3W1 D/C	5[a]	
415BH6203	#1 3W2 D/C	5[a]	
420BH6260	420-4 Flex-Kleen	5[a]	

SN	Process Unit	Permit Opacity	Weekly Opacity
420BH05	#1 Bagging D/C	5[a]	
420BH06	#2 Bagging D/C	5[a]	
420BH6193	#1 AirSlide Vent	5[a]	
420BH6194	#2 AirSlide Vent	5[a]	
420BH7614	420-3 DC	5[a]	
420BH7801	420-5 Bulk Loading DC	5[a]	
420ABH7851	Majac D/C	5[a]	
420ABH7714	420A-2 Course D/C	5[a]	
420ABH7716	420A-3 Fines D/C	5[a]	
420ABH7810	Norblo XFER D/C	5[a]	
420ABH7811	#7 Product Tank	5[a]	
420BH07	Dust Collector	10[c]	
SECTION 4			
425AUC01	BLS Truck	5[a]	
425BH01	Low Iron Tabular	5[a]	
425BH02	High Iron Tabular	5[a]	
425BH1003	325 Ceramic Mill	5[a]	
425BH03	Ground Ore D/C	5[a]	
425BH3343	8th Floor D/C	5[a]	
425BH04	4th Floor D/C	5[a]	
425BH05	#2 Flex-Kleen D/C	5[a]	
425BH06	#3 Flex-Kleen D/C	5[a]	
425BH07	425A DPP D/C	5[a]	
425BH08	T-1 Mill D/C	5[a]	
425BH09	#2, 3, 4 Ground Ore D/C	5[a]	
425BH1035	#8 Ball Former DC	5[a]	
425BH1037	Product D/C	5[a]	
426BH3320	#4 Tabular D/C	5[a]	
426BH3317	#3 Tabular D/C	5[a]	
426BH5041	Unground Ore D/C	5[a]	
426BH5015	Ground Ore D/C	5[a]	

SN	Process Unit	Permit	Weekly
426BH3311	#1 Tabular D/C	5[a]	
426BH3314	#2 Tabular D/C	10[c]	
426BH1045	#3 Ceramic Mill D/C	5[a]	
426BH7086	Boric Acid D/C	5[a]	
426BH1032	#2 Ceramic Mill D/C	5[a]	
426BH5044	12-1 Bin D/C	5[a]	
426BH5045	Bulk Load D/C	5[a]	
SECTION 5			
435BH0712	Product Tank #3/#4	5[a]	
435BH0754	Blender #4 D/C	5[a]	
435BH0770	Rework System D/C	5[a]	
451BH01	#1 Product Bin Vent d/c	5[a]	
451BH03	#4 Product Bin	5[a]	
451BH04	Ground Gel D/C	5[a]	
451BH05	Auxiliary Spray Dryer	5[a]	
451BH06	Hydral bulk loading d/c	5[a]	
451BH07	PD Nuisance D/C	5[a]	
451BH08	Spacerite Feed Tank	5[a]	
451BH09	Spacerite Product D/C	10[c]	
451BH010	CX200S Nuisance D/C	5[a]	
451BH011	Aux. Spray Dryer D/C	10[b]	
451BH012	#4 Bin Vent D/C	5[a]	
451BH013	#2 Spray Dryer Nuis.D/C	5[a]	
451BH014	#1 Spray Dryer Pro.	10[c]	
451BH015	Flash Dryer	10[b]	
451BH016	Pump Surge Hopper	5[a]	
451BH0760	PGA Bagging Baghouse	10[c]	

[a]This opacity limit assigned pursuant to §18.501 of Regulation 18, §19.503 of Regulation 19, and 40 CFR Part 52, Subpart E. (Plantwide Condition No. 7)
[b]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart UUU. (Specific Condition No. 6)
[c]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart LL. (Specific Conditions No. 11, 27.b, & 40.b)

SN	Process Unit	Permit Opacity	Weekly Opacity
SECTION 3 (Continue)			
415BH0001	# 2 Bin Disch. Air Slide DC (	10[c]	
415BH0002	# 4 Bin Discharge Air Slide DC	10[c]	
415BH0003	# 5 Bin Discharge Air Slide DC	10[c]	
415BH0004	# 7 BIN Discharge Air Slide DC	10[c]	
415BH0005	# 8 Bin Discharge Air Slide DC	10[c]	
415BH0006	# 10 Bin Discharge Air Slide DC	10[c]	
415BH0007	# 11 Bin Discharge Air Slide DC	10[c]	
415BH0008	# 13 Bin Discharge Air Slide DC	10[c]	
415BH0009	# 15ABin Discharge Air Slide DC	10[c]	
415BH0010	# 16 Bin Discharge Air Slide DC	10[c]	
415BH0011	# 16A Bin Discharge Air Slide DC	10[c]	
415BH0012	# 17 Bin Discharge Air Slide DC	10[c]	
415BH0013	# 18A Bin Discharge Air Slide DC	10[c]	
415BH0014	Air Merge Blender Discharge Air Slide DC	10[c]	
415BH0015	# 220 Discharge Air Slide DC	10[c]	
415BH0016	# 223 Discharge Air Slide DC	10[c]	
415BH0017	Air Merge Blender Feed Air Slide DC	10[c]	
415BH0018	No. 9 Bucket Elevator DC	10[c]	
COMMENTS:			
FUGITIVE EMISSIONS:			

[a]This opacity limit assigned pursuant to §18.501 of Regulation 18, §19.503 of Regulation 19, and 40 CFR Part 52, Subpart E. (Plantwide Condition No. 7)
[b]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart UUU. (Specific Condition No. 6)
[c]This opacity limit assigned pursuant to §19.304 of Regulation 19 and 40 CFR Part 60, Subpart LL. (Specific Conditions No. 11, 27.b, & 40.b)

Observed By: _____ **Date:** _____ **Checked By:** _____ **Date:**

_____ **Excursion Reports Initiated** **Approved By:** _____ **Date:**

APPENDIX B

40 CFR 60 Subpart UUU

Standards of Performance for Calciners and Driers in the Mineral Industry

(b) Each owner or operator who uses a wet scrubber to comply with §60.732 shall determine and record once each day, from the recordings of the monitoring devices in §60.734(d), an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operating parameters required to be monitored by §60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:

(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or

(2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in §60.735(b) that is less than 90 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or

(3) Each daily wet scrubber liquid flow rate recorded as described in §60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57 FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

§ 60.736 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.732 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions.

(c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of §60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of §60.735(c).

§ 60.737 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

Browse Previous | Browse Next

APPENDIX C

40 CFR 60 Subpart Dc

Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Browse Previous | Browse Next

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO_2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not subject by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject by this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760

hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO_2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO_2control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.42c Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2emissions limit or the 90 percent SO_2reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO_2emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 50 percent (0.50) of the potential SO_2emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2in excess of the following:

(1) The percent of potential SO_2emission rate or numerical SO_2emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s= SO_2emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (1.2 lb/MMBtu);

K_b= 260 ng/J (0.60 lb/MMBtu);

K_c= 215 ng/J (0.50 lb/MMBtu);

H_a= Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b= Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c= Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO_2emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that can combust coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences

modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO_2emission limits under §60.42c is based on the average percent reduction and the average SO_2emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2emission rate (E_{ho}) and the 30-day average SO_2emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate $E_{ao}$when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho}($E_{ho}o$) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}($E_{ao}o$). The $E_{ho}o$ is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

$E_{ho}o$ = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho}= Hourly SO_2emission rate, ng/J (lb/MMBtu);

E_w= SO_2concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_w$if the owner or operator elects to assume E_w= 0.

X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters $E_w$or $X_k$if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO_2emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$= Potential SO_2emission rate, in percent;

$\%R_g$= SO_2removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$= SO_2removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$($\%R_g$o) is computed from E_{ao}o from paragraph (e)(1) of this section and an adjusted average SO_2inlet rate (E_{ai}o) using the following formula:

$$\%R_{go} = 100\left(1 - \frac{E^{\circ}_{ao}}{E^{\circ}_{ai}}\right)$$

Where:

$\%R_g$o = Adjusted $\%R_g$, in percent;

E_{ao}o = Adjusted E_{ao}, ng/J (lb/MMBtu); and

E_{ai}o = Adjusted average SO_2inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ao}, an adjusted hourly SO_2 inlet rate (E_{ho}) is used. The E_{ho} is computed using the following formula:

$$E_{ho} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho} = Adjusted E_{hi}, ng/J (lb/MMBtu);

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A–2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A–3 of this part or 17 of appendix A–6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O_2or CO_2measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A–4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2(or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall be used; and

(ii) For O2 (or CO_2), Method 3A or 3B of appendix A–2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) After July 1, 2011, within 90 days after the date of completing each performance evaluation required by paragraph (c)(11) of this section, the owner or operator of the affected facility must either submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main* or mail a copy to: United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243–01; RTP, NC 27711.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2concentrations and either O_2or CO_2concentrations at the outlet of the SO_2control device (or the outlet of the steam generating unit if no SO_2control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO_2concentrations and either O_2or CO_2concentrations at both the inlet and outlet of the SO_2control device.

(b) The 1-hour average SO_2emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO_2emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO_2emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO_2CEMS at the inlet to the SO_2control device shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted, and the span value of the SO_2CEMS at the outlet from the SO_2control device shall be 50 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO_2CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2control device (or outlet of the steam generating unit if no SO_2control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2at the inlet or outlet of the SO_2control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable $SO_2$and CO_2measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), (f), and (g) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A–4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in §60.45c(a)(8).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in §60.43c(c) are not required to operate a COMS if they follow the applicable procedures in §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.45c(c). The CEMS specified in paragraph §60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part is not required to operate a COMS.

(g) Owners and operators of an affected facility that is subject to an opacity standard in §60.43c(c) and that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority is not required to operate a COMS. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO_2emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO_2emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO_2emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO_2emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO_2standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

Browse Previous | Browse Next

APPENDIX D

40 CFR 60 Subpart LL

Standards of Performance for Metallic Mineral Processing Plants

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Browse Previous | Browse Next

Subpart LL—Standards of Performance for Metallic Mineral Processing Plants

Source: 49 FR 6464, Feb. 21, 1984, unless otherwise noted.

§ 60.380 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this subpart. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this subpart.

(b) An affected facility under paragraph (a) of this section that commences construction or modification after August 24, 1982, is subject to the requirements of this part.

§ 60.381 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bucket elevator means a conveying device for metallic minerals consisting of a head and foot assembly that supports and drives an endless single or double strand chain or belt to which buckets are attached.

Capture system means the equipment used to capture and transport particulate matter generated by one or more affected facilities to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a metallic mineral processing plant.

Conveyor belt transfer point means a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile.

Crusher means a machine used to crush any metallic mineral and includes feeders or conveyors located immediately below the crushing surfaces. Crushers include, but are not limited to, the following types: jaw, gyratory, cone, and hammermill.

Enclosed storage area means any area covered by a roof under which metallic minerals are stored prior to further processing or loading.

Metallic mineral concentrate means a material containing metallic compounds in concentrations higher than naturally occurring in ore but requiring additional processing if pure metal is to be isolated. A metallic mineral concentrate contains at least one of the following metals in any of its oxidation states and at a concentration that contributes to the concentrate's commercial value: Aluminum, copper, gold, iron, lead, molybdenum, silver, titanium, tungsten, uranium, zinc, and zirconium. This definition shall not be construed as requiring

that material containing metallic compounds be refined to a pure metal in order for the material to be considered a metallic mineral concentrate to be covered by the standards.

Metallic mineral processing plant means any combination of equipment that produces metallic mineral concentrates from ore. Metallic mineral processing commences with the mining of ore and includes all operations either up to and including the loading of wet or dry concentrates or solutions of metallic minerals for transfer to facilities at non-adjacent locations that will subsequently process metallic concentrates into purified metals (or other products), or up to and including all material transfer and storage operations that precede the operations that produce refined metals (or other products) from metallic mineral concentrates at facilities adjacent to the metallic mineral processing plant. This definition shall not be construed as requiring that mining of ore be conducted in order for the combination of equipment to be considered a metallic mineral processing plant. (See also the definition of *metallic mineral concentrate.*)

Process fugitive emissions means particulate matter emissions from an affected facility that are not collected by a capture system.

Product packaging station means the equipment used to fill containers with metallic compounds or metallic mineral concentrates.

Railcar loading station means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into railcars.

Railcar unloading station means that portion of a metallic mineral processing plant where metallic ore is unloaded from a railcar into a hopper, screen, or crusher.

Screen means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize material on the mesh surfaces (screens).

Stack emissions means the particulate matter captured and released to the atmosphere through a stack, chimney, or flue.

Storage bin means a facility for storage (including surge bins and hoppers) of metallic minerals prior to further processing or loading.

Surface moisture means water that is not chemically bound to a metallic mineral or metallic mineral concentrate.

Thermal dryer means a unit in which the surface moisture content of a metallic mineral or a metallic mineral concentrate is reduced by direct or indirect contact with a heated gas stream.

Truck loading station means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into trucks.

Truck unloading station means that portion of a metallic mineral processing plant where metallic ore is unloaded from a truck into a hopper, screen, or crusher.

[49 FR 6464, Feb. 21, 1984, as amended at 65 FR 61760, Oct. 17, 2000]

§ 60.382 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any stack emissions that:

(1) Contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.02 g/dscm).

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.

[49 FR 6464, Feb. 21, 1984, as amended at 65 FR 61760, Oct. 17, 2000]

§ 60.383 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are: Crushing surfaces; screen meshes, bars, and plates; conveyor belts; elevator buckets; and pan feeders.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) that are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 24, 1982.

§ 60.384 Monitoring of operations.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber for any affected facility using a wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to a wet scrubber for any affected facility using any type of wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.

§ 60.385 Recordkeeping and reporting requirements.

(a) The owner or operator subject to the provisions of this subpart shall conduct a performance test and submit to the Administrator a written report of the results of the test as specified in §60.8(a).

(b) During the initial performance test of a wet scrubber, and at least weekly thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(c) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss (or gain) or liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test.

(d) The reports required under paragraph (c) shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

(e) The requirements of this subsection remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within

the State will be relieved of the obligation to comply with this subsection, provided that they comply with requirements established by the State.

[49 FR 6464, Feb. 21, 1984, as amended at 54 FR 6676, Feb. 14, 1989; 65 FR 61760, Oct. 17, 2000]

§ 60.386 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine complance with the particulate matter standards §60.382 as follows:

(1) Method 5 or 17 shall be used to determine the particulate matter concentration. The sample volume for each run shall be at least 1.70 dscm (60 dscf). The sampling probe and filter holder of Method 5 may be operated without heaters if the gas stream being sampled is at ambient temperature. For gas streams above ambient temperature, the Method 5 sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121 °C (250 °F)) in order to prevent water condensation on the filter.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions and process fugitive emissions. The observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.

(c) To comply with §60.385(c), the owner or operator shall use the monitoring devices in §60.384(a) and (b) to determine the pressure loss of the gas stream through the scrubber and scrubbing liquid flow rate at any time during each particulate matter run, and the average of the three determinations shall be computed.

[54 FR 6676, Feb. 14, 1989, as amended at 65 FR 61760, Oct. 17, 2000]

Browse Previous | Browse Next

CERTIFICATE OF SERVICE

I, Pam Owen, hereby certify that a copy of this permit has been mailed by first class mail to Almatis, Inc., 4701 Alcoa Road, Bauxite, AR, 72011, on this 9th day of August, 2011.

Pam Owen

Pam Owen, AAII, Air Division