STATEMENT OF BASIS

For the issuance of Air Permit # 0075-AOP-R21 AFIN: 41-00001

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Ash Grove Cement Company
4343 Highway 108
Foreman, Arkansas 71836

3. PERMIT WRITER:

Andrea Sandage

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Cement Manufacturing
NAICS Code: 327310

5. ALL SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
4/26/2018	Minor Mod	Added SN-111.P1 outdoor limestone storage pile

6. REVIEWER'S NOTES:

Ash Grove Cement Company (AFIN: 41-00001) operates a portland cement plant located at 4457 Hwy 108 West in Foreman, Arkansas 71836. With this permitting action, Ash Grove is incorporating a Minor Modification to add a new outdoor limestone storage pile (SN-111.P1). This modification includes the material transfer points for the limestone pile (SN-111.T13).

The total annual emission increases include 0.7 tpy PM and 0.3 tpy PM_{10}.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.
This facility was inspected August 6, 2018 and determined to be out of compliance. The following items were noted on the inspection report:

Specific Condition #45 and General Provision #8: The temperature at SN-40F.TX1, Thermal Oxidizer, dropped below 1500 ^{o}F on March 15, 2018 and on March 26, 2018. During these two low temperature events, the isolation valve did not open to route the emissions to the duel carbon canister; therefore, emissions from the LWDF Tanks and the Ancillaries' Closed Vent System vented uncontrolled to the atmosphere. The facility failed to report these two exceedances to the Department as upset conditions.

Plantwide Condition #9: The facility exceeded the daily clinker production limit of 5,300 tons of clinker per day when it produced 5,336 tons of clinker on August 2, 2018.

General Provision #21: The facility failed to identify every term and condition of its air permit along with the compliance status, method of determining compliance, and whether compliance was continuous or intermittent for the omitted terms and conditions in the Annual Compliance Certification, which the facility submitted to ADEQ on November 29, 2017.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b) Is the facility categorized as a major source for PSD? Y
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.
The facility did not undergo a PSD review for PM or PM_{10} since the increase was below significant levels.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
326.CH22,326.CH26, 403.CHM 403.CHR, 403.CHU 443.CH56, 443.CH46, 449.BF10, 449.BF15, 449.BF20, 449.BF30, 449.BF40, 449.BF50, 449.BF60, 449.BF70, 449.CH30, 449.CH31, 449.CH32, 449.CH33, 449.CH42 449.HP2, 449.HP4, 449.T7, 449.T8, 533.LS10, 534.CH12, 514.BF1, 514.BF2, 514.BF3, 524.BF1, 524.BF2, 611.BF1, 611.BF3, 611.BF4, 611.BF10, 611.BF20, 611.BF30, 611.BF40, 403.BF3, 403.BF4, 403.BF6, 403.BF7, 403.BF8, 612.BF1, 612.BF2, 612.BF3, 612.BF4, 612.BF5, 621.BF1, 621.BF2, 621.BF3, 621.BF5, 621.BF6(E), 621.BF7(W), 621.BF8, 621.BF9, 631.BF10, 631.BF15, 631.BF20, 631.BF25, 631.BF30, 513.BF1, 521.BF1, 521.BF2, 523.BF2, 531.BF10, 531.BF20, 533.BF10, 533.BF20, 534.BF10, 534.BF20, 535.BF10, 535.BF20, 44C.BF10, 44M.BF10, 409.BF10, 442.BF10, 442.BF20, 443.BF20, 449, BF31, 327.BF10, 327.BF20, 327.BF30, 442.BF10, 442.BF20, 443.BF20, 311.CHA, 326.BF10, 326.BF30, 329.BF10, 329.BF20, 611.UL10	PM_{10}	NESHAP Subpart LLL
41A.BF10, 41A.BF20, 41A.T2, 41A.T10, 44A.T10, 44A.BF10, 44B.BF10	PM_{10}	NSPS Subpart Y
41A.BF10, 41A.BF20, 44A.BF10, 213.BF10, 213.BF20, 213.T2, 213.T3, 221.BF10, 323.BF10, 325.BF10, 325.BF20, 325.BF30, 41A.T1, 111.T10, 111.T12, 111.T13, 213.T1, 221.CH01, 221.RMB1, 221.T1, 321.CH01, 323.T1, 41A.BF10, 41A.BF20, 44A.BF10	PM_{10}	NSPS Subpart OOO
41F.FT10, 40F.FT3, 40F.FT4, 40F.FT5, 40F.FT6, 40F.FT7, 40F.FT8, 40F.FT9, 40F.FTA	VOC	NSPS Subpart Kb
41F.FT10, 40F.FT3, 40F.FT4, 40F.FT5, 40F.FT6, 40F.FT7, 40F.FT8, 40F.FT9, 40F.FTA, 40F.TX1, 45F.TX10	Benzene Waste Operations	40 CFR Part 61, Subpart FF
41F.FT10, 40F.FT3, 40F.FT4, 40F.FT5, 40F.FT6, 40F.FT7, 40F.FT8, 40F.FT9, 40F.FTA, 40F.TX1, 45F.TX10, RCC	Benzene Waste Operations	40 CFR 63, Subpart DD

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
443.BF10, 443.BF30, 443.SK10	HAPs and THC	NESHAP Subpart EEE
710-EG10	Varies	NSPS Subpart IIII
Facility	Varies	NESHAP Subpart G
		NESHAP Subpart XX

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

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

b) Non-Criteria Pollutants:

This facility is subject to 40 CFR 63, Subpart EEE. This subpart requires a risk assessment to be performed and no threat to the public health or safety was found.

13. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
Kiln	Testing BACT	Various VOC: 44.5 lb/hr	Baghouse	99%	
	EPA Consent Decree	lb/ton: 1.5 NO_x 0.6 SO_2 0.086 PM/PM_{10}	SNCR for NO_x	--	30-day rolling average emission limits
Fabric filters	Various	0.01 gr/dscf or 0.005 gr/dscf		95%	
Combustion sources	AP-42	Various			Based on equation in AP-42
Crushers	AP-42	Various			based on equation in AP-42
Roads	AP-42	Various			based on equation in AP-42
Storage piles	AP-42	Various			based on equation in AP-42
45F.TX10	AP-42 Chapter 5.2, Equation 1 And Chapter 7.1, equation 4.4	Various VOC: 0.7 lb/hr	RTO	95%	

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
443.SK10	All	See NESHAP EEE		
443.SK10	Methane	18 with 25A or 25A with Methane cutter	Quarterly	To verify the methane portion of emission from 443.SK10

SN	Pollutants	Test Method	Test Interval	Justification
443.SK10	PM (Condensables)	202	Once every five years	§26.703(A)
HR07, HR15, HR17 - HR22, 111.R1A-F	Silt content of roads to verify PM_{10}	Appendix C.1 and C.2 of AP-42	Quarterly until each road segment has been tested twice.	§26.703(A)
HR01 - HR06, HR12 - HR14, HR16, HR23	Road surface silt loading to verify PM_{10}			

15. MONITORING OR CEMS:

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

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
443.SK10	CO	CEM	Continuously	Y
	VOC	THC Analyzer (CEM)	Continuously	Y
	NO_x	CEM	Continuously	Y
	SO_2	CEM	Continuously	Y
40F.TX1 & 41F.TX10	Combustion chamber temperature	Continuous temperature recorder	Continuously	N
45F.TX10	Combustion chamber temperature	Continuous temperature recorder	Continuously	N

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
443.SK10 & Plantwide	Clinker production	5,300 tons/day	Daily	Y
443.SK10	Daily clinker production	Tons per hour	Hourly	N
	Operating Parameter Limits	See Appendix N	Daily	Y
403.P1	Pile area	20 acres	Annually	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
449.P1	Pile area	4 acres	Annually	Y
213.P2	Pile area	22,500 ft^2	Annually	Y
41.AP1, 41.AP2, & 41.AP3	Pile area	0.92 acres (total)	Annually	Y
41A.P5	Pile area	1.03 acres	Annually	Y
41A.P6	Pile area	0.52 acres	Annually	Y
221.RMB1	Pile area	4.93 acres	Annually	Y
111.P1	Pile area	17,500 ft^2	Annually	Y
710.EG10	Operating Hours	500 hours per consecutive 12-month period	As Necessary	Y
40F.TX1	Combustion chamber temperature	≥ 1500°F	Continuously	N
	Breakthrough indicators	Log of observations	Good engineering judgment	N
45F.TX10	Combustion chamber temperature	≥ 1425°F	Continuously	N
449.CR10	Fuel oil sulfur content	Not to exceed 0.05%	Each fuel shipment received	N

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
443.BF10, 443.BF30, & 443.SK10	20	NESHAP Subpart EEE	Weekly observation

SN	Opacity	Justification for limit	Compliance Mechanism
326.BF10, 326.BF30, 326.CH26, 327.BF10, 327.BF20, 329.BF10, 329.BF20, 403.CHM, 403.CHR, 403.CHU, 431.LS12, 442.BF20, 443.BF20, 443.CH46, 449.CH30, 449.CH31, 449.CH32, 449.CH33, 449.CH42, 449.HP2, 449.T7, 449.T8, 533.LS10, 534.CH12, M9, 514.BF1, 514.BF2, 514.BF3, 524.BF1, 524.BF2, 611.BF1, 611.BF3, 611.BF4, 611.BF10, 611.BF20, 611.BF30, 611.BF40, 611.UL10, 403.BF3, 403.BF4, 403.BF6, 403.BF7, 403.BF8, 612.BF1, 612.BF2, 612.BF3, 612.BF4, 612.BF5, 621.BF1, 621.BF2, 621.BF3, 621.BF5, 621.BF6(E), 621.BF7(W), 621.BF8, 621.BF9, 631.BF10, 631.BF15, 631.BF20, 631.BF25, 631.BF30, 409.BF10, 449.BF10, 449.BF15, 449.BF20, 449.BF30, 449.BF31, 449.BF40, 449.BF50, 449.BF60, 449.BF70, 513.BF1, 521.BF1, 521.BF2, 523.BF2, 531.BF10, 531.BF20, 533.BF10, 533.BF20, 534.BF10, 534.BF20, 535.BF10, 535.BF20, 44C.BF10, 44M.BF10, 327.BF30, 442.BF10	10	NESHAP Subpart LLL	Monthly observation
40F.TX1 & 45F.TX10	10	Department Guidance	Natural gas only
41A.BF10, 41A.BF20, 41A.T2, 41A.T10, 44A.T10, 44A.BF10, 44B.BF10	10	NSPS Subpart Y	Weekly observation

SN	Opacity	Justification for limit	Compliance Mechanism
41A.BF10, 41A.BF20, 44A.BF10, 213.BF10, 213.BF20, 213.T2, 213.T3, 221.BF10, 323.BF10, 325.BF10, 325.BF20, 325.BF30, 41A.T1, 111.T10, 111.T12, 111.T13, 213.T1, 221.CH01, 221.RMB1, 221.T1, 321.CH01, 323.T1	Various	NSPS Subpart OOO	Weekly observation
403.P1, 449.P1, 41A.P1, 41A.P2, 41A.P3, 41A.P5, 41A.P6, 211.BF1, 213.P2, 311.BF1, 311.CH10, 311.CH11, 311, CH15, 311.CH16, 403.T2, 449.CR10, 449.T4, 111.P1	20	Department Guidance	Weekly observation
311.CH1, 311.CHC	40	Department Guidance	Weekly observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

19. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
500 gal grinding aid tank	A-3	See A-3 total.						
1000 gal grinding aid tank	A-3							
<15 gal DOT containers	A-3							
10,000 gal diesel storage tank – vendor x 2	A-3							
10,000 gal diesel UST x 3	A-3							
10,000 gal Masonry air entraining agent tank	A-3							

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
1,000 gal used oil UST	A-3							
550 gal motor oil and/or hydraulic fluid UST x 3	A-3							
350 gal used oil tanks x 2	A-3							
Total	A-3			4.91			4.91	4.91
Cadence Lab Vents	A-5			0.007			0.007	0.007
Piles associated with clean-up	A-13	See A-13 total.						
10,000 gallon oil tank	A-13							
12,000 gallon grinding aid tank	A-13							
10,000 gallon unleaded UST	A-13							
30,000 gallon grinding aid tank	A-13							
Total	A-13	4.92		4.37			0.88	0.88

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0075-AOP-R20

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Ash Grove Cement Company
Permit Number: 0075-AOP-R21
AFIN: 41-00001

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	6970.46
Permit Type	Minor Mod	Permit Fee $	500

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	0.3
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		324.2	324.9	0.7		
PM_{10}		657.8	658.1	0.3	0.3	658.1
$PM_{2.5}$		0	0	0		
SO_2		2701.6	2701.6	0	0	2701.6
VOC		220.8	220.8	0	0	220.8
CO		1723.2	1723.2	0		
NO_X		2978.6	2978.6	0	0	2978.6
1. (The following HAPs are bubbled together)	☐	0	0	0		
1,1,1-Trichloroethane*	☐	195.94	195.94	0		
1,1,2,2-Tetrachloroethane*	☐	0	0	0		
1,1,2-Trichloroethane*	☐	0	0	0		
1,1-Dichloroethane*	☐	0	0	0		
1,2-Dichloroethane*	☐	0	0	0		
1,2-Dichloropropane*	☐	0	0	0		
Acrylonitrile*	☐	0	0	0		
Allyl Chloride*	☐	0	0	0		
Benzene*	☐	0	0	0		
Bromoform*	☐	0	0	0		
Bromomethane*	☐	0	0	0		
Carbon disulfide*	☐	0	0	0		
Carbon tetrachloride*	☐	0	0	0		
Chlorobenzene*	☐	0	0	0		
Chloroform*	☐	0	0	0		
Chloromethane*	☐	0	0	0		
Cumene*	☐	0	0	0		
Diethanolamine*	☐	0	0	0		
Ethyl Acrylate*	☐	0	0	0		
Ethylbenzene*	☐	0	0	0		
Ethylene Glycol*	☐	0	0	0		
Iodomethane*	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Methyl Methacrylate*	☐	0	0	0		
Methyl tert-butyl ether*	☐	0	0	0		
Methylene chloride*	☐	0	0	0		
n-Hexane*	☐	0	0	0		
Styrene*	☐	0	0	0		
Toluene*	☐	0	0	0		
trans-1,3-Dichloropropene*	☐	0	0	0		
Vinyl acetate*	☐	0	0	0		
Vinyl Bromide*	☐	0	0	0		
Vinyl chloride*	☐	0	0	0		
Xylene*	☐	0	0	0		
1,2,4-Trichlorobenzene*	☐	0	0	0		
1,4-Dichlorobenzene*	☐	0	0	0		
1,4-Phenylenediamine*	☐	0	0	0		
2,4,5-Trichlorophenol*	☐	0	0	0		
2,4,6,-Trichlorophenol*	☐	0	0	0		
2,4-Dinitrophenol*	☐	0	0	0		
2,4-Dinitrotoluene*	☐	0	0	0		
3,3'-Dichlorobenzidine*	☐	0	0	0		
4,4'-Methylenedianiline*	☐	0	0	0		
4-Aminobiphenyl*	☐	0	0	0		
4-Nitrobiphenyl*	☐	0	0	0		
4-Nitrophenol*	☐	0	0	0		
Aniline*	☐	0	0	0		
Benzidine*	☐	0	0	0		
bis(2-Chloroethyl) ether*	☐	0	0	0		
bis(2-Ethylhexyl) phthalate*	☐	0	0	0		
Dimethyl phthalate*	☐	0	0	0		
Hexachlorobenzene*	☐	0	0	0		
Hexachlorobutadiene*	☐	0	0	0		
Hexachlorocyclopentadiene*	☐	0	0	0		
Hexachloroethane*	☐	0	0	0		
Hydroquinone*	☐	0	0	0		
Isophorone*	☐	0	0	0		
Napthalene*	☐	0	0	0		
Nitrobenzene*	☐	0	0	0		
o-Anisidine*	☐	0	0	0		
o-Toluidine*	☐	0	0	0		
Pentachloronitrobenzene*	☐	0	0	0		
Pentachlorophenol*	☐	0	0	0		
Phenol*	☐	0	0	0		
----------	☐	0	0	0		
Dioxin/Furan*	☐	1.30E-06	1.30E-06	0		
----------	☐	0	0	0		
(The following emissions are bubbled together)	☐	0	0	0		
HCl	☑	416.76	416.76	0	0	416.76
Chlorine	☐	0	0	0		
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Arsenic*	☐	0.18	0.18	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Beryllium*	☐	0.18	0.18	0		
Cadmium*	☐	0.58	0.58	0		
Chromium*	☐	0.18	0.18	0		
Lead*	☐	0.58	0.58	0		
Mercury*	☐	0.39	0.39	0		
----------	☐	0	0	0		
(The following emissions are bubbled together)	☐	0	0	0		
Antimony*	☐	119.3	119.3	0		
Cobalt*	☐	0	0	0		
Manganese*	☐	0	0	0		
Nickel*	☐	0	0	0		
Selenium*	☐	0	0	0		
----------	☐	0	0	0		
Single HAP	☐	0	0	0		
Total Other HAP	☐	0.14	0.14	0		
----------	☐	0	0	0		
NOx + VOC adjustment	☑	-5.4	-5.4	0	0	-5.4