

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0075-AOP-R11 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  
4457 Highway 108  
Foreman, Arkansas 71836

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Cement Manufacturing  
NAICS Code: 327310

5. SUBMITTALS:

12/16/2008

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. Ash Grove would like to replace the existing Rail Silo load out spout with two (2) spouts with their own integral dust collectors and to unload Mill Scale in an additional location when the material is received by rail. The load out spouts are designated as SN-S20 (611.BF3) and SN-S21 (611.BF4). Due to the load out spouts close proximity, only one spout can be used at a time. Therefore, the overall emissions increase will be the amount of one of the dust collectors on the spouts. With the second permit modification submitted, Ash Grove would like to modify the Pyroprocess Operating Scenario which includes removing sources, adding sources, and updating certain baghouse operating parameters. Ash Grove also submitted updates to correct miscellaneous typographical errors and notes regarding sources that cannot operate simultaneously with other sources. For the modifications proposed, the permitted emissions decrease by 5.3 tpy of PM and PM<sub>10</sub>.

The permit is set up in a way that will allow Ash Grove to change operating scenarios without requiring a modification. It is essentially three permits in one. This SOB is for both the three kiln operating scenario, the pyroprocess unit operating scenario, and the temporary three kiln operating scenario.

7. COMPLIANCE STATUS:

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

Ash Grove may have Mercury emissions (Air Emissions) set to levels higher than those that were determined by the Hazardous Waste Division by means of a risk assessment. The emissions determined by Hazardous Waste Division appear to never have been submitted to the Air Division. A CAO may or may not be pending.

8. PSD APPLICABILITY:

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

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

If yes, explain why this permit modification not PSD?

The facility is adding baghouses to existing operations.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
P5, P6, P8, P10, P11, P12, P13, P15, P16, P17, P18, P19, P20, P26, P27, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, M1, M3, M4, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20, M21, M22, M23, M24, M25, M26, M27, M28, M29, M30, M31, M32, M33, M34, M35, M36, M37, M38, M39, M40, M41, M42, M43, M44, M45, M46, S1-S13, S15-S21, C1-C11, C13-C21, C26-C28, C32-C35, C41-C44, C47	PM <sub>10</sub>	NESHAP Subpart LLL

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
C4, P23, R12, R17, R19	PM <sub>10</sub>	NSPS Subpart F
F19, F20	VOC	NSPS Subpart Kb
F19, F20, facility	Benzene Waste Operations	40 CFR Part 61, Subpart FF 40 CFR 63, Subpart DD
P1, P2, P3	All	NESHAP Subpart EEE

## 10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

## 11. MODELING:

## Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	Highest Concentration ( $\mu\text{g}/\text{m}^3$ )	% of NAAQS
PM <sub>10</sub>	135.4	50	Annual	41.6	83%
		150	24-Hour	144.6	96%
SO <sub>2</sub>	2563.4	80	Annual	23.6	30%
		1300	3-Hour	882.6	68%
		365	24-Hour	268.6	74%
CO	551.4	10,000	8-Hour	1169.0	12%
		40,000	1-Hour	4366.8	11%
NO <sub>x</sub>	3349.6	100	Annual	51.1	51%

These modeling results were obtained through detailed modeling performed by the facility in Permit # 0075-AOP-R7. Changes in this permit were not significant enough to change the results.

## 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.

12. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
Kilns	Testing	Various	ESP	99%	
Fabric filters	Various	0.01 gr/dscf		95%	
P6	AP-42	0.147 lb/ton	Baghouse		
M20	AP-42	0.0195 lb/ton	Scrubber		
F19	Tanks3		Thermal oxidizer, Carbon adsorber	99.9%	
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

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
P1, P2, P3	all		See NESHAP EEE	

14. MONITORING OR CEMS

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

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
P1, P2, P3	CO, NO <sub>x</sub> , SO <sub>2</sub>	CEM	Continuously	Y
F20	Temperature	Continuous recorder	Continuously	Y

15. RECORDKEEPING REQUIREMENTS:

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

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
M17, M19	Grinding Aid used, VOC content, HAP content, density	196,190 lb 9.996 lb/gal 90% VOC 4% HAP	Monthly	N
P1, P2, P3	Amount of fuel used and clinker produced	Various	Monthly	Y
F4, F5, R2, R5, R17, R18, R19	Pile Area	Various	every 3 months	N
Q2, Q8	Amount crushed	1,116,000 tons/month 632,400 tons/month	Monthly	Y

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
P1, P2, P3	20	Department Guidance	Weekly observation
P5, P6, P8, P10, P11, P12, P13, P15, P16, P17, P18, P19, P20, P26, P27, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, M1, M3, M4, M8, M9, M10, M11, M12, M13, M14, M15, M16, M17, M18, M19, M20, M21, M22, M23, M24, M25, M26, M27, M28, M29, M30, M31, M32, M33, M34, M35, M36, M37, M38, M39, M40, M41,	10	NESHAP Limit	Weekly observation

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SN	Opacity	Justification for limit	Compliance Mechanism
M42, M43, M44, M45, M46, S1-S13, S15-S21, C1-C11, C13, C20, C21, C26- C28, C32-C35, C41- C44, C47			
C4, P23, R12, R17, R19	10	NSPS Subpart F Limit	Weekly observation
F19, F20	10	Department Guidance	Weekly observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
No Insignificant Activities were added with this modification.								

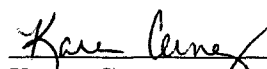
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0075-AOP-R10

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

  
\_\_\_\_\_  
Karen Cerney, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Facility Name: Ash Grove Cement Company  
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\$/ton factor	22.07	Annual Chargeable Emission (tpy)	<b>9784.0156</b>
Permit Type	Modification	Permit Fee \$	<b>1000</b>

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0.6

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	<input checked="" type="checkbox"/>	720.75	721.35	0.6	0.6	721.35
PM <sub>10</sub>	<input type="checkbox"/>	554.65	555.25	0.6		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	5741.1	5741.1	0	0	4000
VOC	<input checked="" type="checkbox"/>	287.17	287.17	0	0	287.17
CO	<input type="checkbox"/>	1214.9	1214.9	0		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	9128.9	9128.9	0	0	4000
1,1,1-trichloroethane*	<input type="checkbox"/>	0.05	0.05	0		
1,1,2,2-tetrachloroethane*	<input type="checkbox"/>	0.1	0.1	0		
1,1,2-trichloroethane*	<input type="checkbox"/>	0.11	0.11	0		
1,1-dichloroethane*	<input type="checkbox"/>	0.05	0.05	0		
1,1-dichloroethene*	<input type="checkbox"/>	1.4	1.4	0		
1,2,4-trichlorobenzene*	<input type="checkbox"/>	0.72	0.72	0		
1,2-dichloroethane*	<input type="checkbox"/>	7.42	7.42	0		
1,2-dichloropropene*	<input type="checkbox"/>	0.1	0.1	0		
1,2-epoxybutane*	<input type="checkbox"/>	0.32	0.32	0		
1,3-butadiene*	<input type="checkbox"/>	2.27	2.27	0		
1,4-dichlorobenzene*	<input type="checkbox"/>	1.63	1.63	0		
1,4-phenylene-diamine*	<input type="checkbox"/>	0.32	0.32	0		
2,4,5-trichlorophenol*	<input type="checkbox"/>	0.08	0.08	0		
2,4,6-trichlorophenol*	<input type="checkbox"/>	0.86	0.86	0		



Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
2,4-dinitrophenol*	<input type="checkbox"/>	0.25	0.25	0		
2,4-dinitrotoluene*	<input type="checkbox"/>	0.03	0.03	0		
2-butanone*	<input type="checkbox"/>	2.69	2.69	0		
3,3-dichlorobenzidine*	<input type="checkbox"/>	0.09	0.09	0		
3,3-dimethoxybenzidine*	<input type="checkbox"/>	0.1	0.1	0		
4-methyl-2-pentanone*	<input type="checkbox"/>	0.21	0.21	0		
4-nitrophenol*	<input type="checkbox"/>	0.17	0.17	0		
acrylonitrile*	<input type="checkbox"/>	0.4	0.4	0		
allyl chloride*	<input type="checkbox"/>	2.34	2.34	0		
aniline*	<input type="checkbox"/>	0.06	0.06	0		
antimony	<input type="checkbox"/>	57.37	57.37	0		
arsenic	<input type="checkbox"/>	0.02459	0.02459	0		
benzene*	<input type="checkbox"/>	3.56	3.56	0		
benzidine*	<input type="checkbox"/>	0.2	0.2	0		
beryllium	<input type="checkbox"/>	0.002734	0.002734	0		
bis(2-chloroethyl)ether*	<input type="checkbox"/>	0.08	0.08	0		
bis(2-ethylhexyl)phthalate*	<input type="checkbox"/>	3.28	3.28	0		
bromodichloromethane*	<input type="checkbox"/>	0.13	0.13	0		
bromoform*	<input type="checkbox"/>	0.12	0.12	0		
bromomethane*	<input type="checkbox"/>	3.43	3.43	0		
cadmium	<input type="checkbox"/>	0.2843	0.2843	0		
carbon disulfide*	<input type="checkbox"/>	0.75	0.75	0		
carbon tetrachloride*	<input type="checkbox"/>	0.06	0.06	0		
chlorine	<input checked="" type="checkbox"/>	5.8656	5.8656	0	0	5.8656
chlorobenzene*	<input type="checkbox"/>	1.52	1.52	0		
chloroethane*	<input type="checkbox"/>	9.19	9.19	0		
chloroform*	<input type="checkbox"/>	1.07	1.07	0		
chloromethane*	<input type="checkbox"/>	9.55	9.55	0		
chromium	<input type="checkbox"/>	0.0683	0.0683	0		
cis-1,3-dichloropropene*	<input type="checkbox"/>	0.18	0.18	0		
cobalt‡	<input type="checkbox"/>	289.12	289.12	0		
cumene*	<input type="checkbox"/>	0.1	0.1	0		
diethanolamine*	<input type="checkbox"/>	4.6	4.6	0		
dimethylphthalate*	<input type="checkbox"/>	0.03	0.03	0		
ethyl acrylate*	<input type="checkbox"/>	1.5	1.5	0		
ethylbenzene*	<input type="checkbox"/>	0.87	0.87	0		
ethylene dibromide*	<input type="checkbox"/>	0.04	0.04	0		
ethylene glycol*	<input type="checkbox"/>	1.6	1.6	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
hexachlorobenzene*	<input type="checkbox"/>	0.05	0.05	0		
hexachlorobutadiene*	<input type="checkbox"/>	0.09	0.09	0		
hexachlorocyclopentadiene*	<input type="checkbox"/>	0.08	0.08	0		
hexachloroethane*	<input type="checkbox"/>	0.1	0.1	0		
hydrogen chloride	<input checked="" type="checkbox"/>	749	749	0	0	749
hydroquinone*	<input type="checkbox"/>	0.17	0.17	0		
iodomethane*	<input type="checkbox"/>	0.29	0.29	0		
lead	<input type="checkbox"/>	0.964	0.964	0		
manganese	<input type="checkbox"/>	0.64	0.64	0		
mercury	<input type="checkbox"/>	0.94	0.94	0		
methyl methacrylate*	<input type="checkbox"/>	0.15	0.15	0		
methylene chloride	<input checked="" type="checkbox"/>	20.63	20.63	0	0	20.63
naphthalene*	<input type="checkbox"/>	4.26	4.26	0		
n-hexane*	<input type="checkbox"/>	0.87	0.87	0		
nickel	<input type="checkbox"/>	289.12	289.12	0		
nitrobenzene*	<input type="checkbox"/>	0.11	0.11	0		
N-nitrosodiphenylamine*	<input type="checkbox"/>	0.03	0.03	0		
N-nitrosomorpholine*	<input type="checkbox"/>	0.13	0.13	0		
ortho-anisidine*	<input type="checkbox"/>	0.11	0.11	0		
ortho-toluidine*	<input type="checkbox"/>	0.05	0.05	0		
o-xylene*	<input type="checkbox"/>	1.56	1.56	0		
pentachlorophenol*	<input type="checkbox"/>	0.15	0.15	0		
phenol*	<input type="checkbox"/>	0.82	0.82	0		
selenium	<input type="checkbox"/>	0.1118	0.1118	0		
styrene*	<input type="checkbox"/>	0.26	0.26	0		
tert-butyl methyl ether*	<input type="checkbox"/>	0.05	0.05	0		
tetrachloroethene*	<input type="checkbox"/>	0.16	0.16	0		
toluene*	<input type="checkbox"/>	0.76	0.76	0		
trans-1,3-dichloropropene*	<input type="checkbox"/>	0.12	0.12	0		
trichloroethene*	<input type="checkbox"/>	0.59	0.59	0		
vinyl acetate*	<input type="checkbox"/>	0.06	0.06	0		
vinyl bromide*	<input type="checkbox"/>	0.61	0.61	0		
vinyl chloride*	<input type="checkbox"/>	3.83	3.83	0		
xylene*	<input type="checkbox"/>	3.83	3.83	0		
	<input type="checkbox"/>	0	0	0		
	<input type="checkbox"/>	0	0	0		
	<input type="checkbox"/>	0	0	0		
	<input type="checkbox"/>	0	0	0		

