STATEMENT OF BASIS

for the issuance of Air Permit # 45-AOP-R2

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Arkansas Lime Company
600 Limedale Road
Batesville, Arkansas 72501

3. PERMIT WRITER:

Loretta Reiber

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Limestone Quarry and Lime Manufacturing Plant
SIC Code: 1422 & 3274

5. SUBMITTALS: January 31, 2000, February 7, 2000, February 9, 2000, February 24, 2000

6. REVIEWER'S NOTES:

Arkansas Lime Company (CSN: 32-0014) is proposing to make several changes at their existing lime plant and quarry located at 600 Limedale Road near Batesville. The most significant change will be the installation of a second 625 tpd rotary lime kiln at the quarry. Arkansas Lime will also be installing additional equipment for handling limestone, lime, coal, and coke.

Emissions of total suspended particulate, particulate matter under 10 microns, sulfur dioxide, and oxides of nitrogen will be increasing significantly as a result of the modifications. Arkansas Lime Company has submitted a Prevention of Significant Deterioration (PSD) application, including the required BACT and Ambient Air Quality analyses, addressing these increases and the changes being made at this facility. Permitted emissions of volatile organic compounds and carbon monoxide will not be increasing significantly as a result of the modifications taking place.

7. COMPLIANCE STATUS:

The permittee will be in compliance with the permit upon issuance.

8. APPLICABLE REGULATIONS:

A. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N) _Y__
Has this facility underwent PSD review in the past (Y/N) _Y____ Permit # _45-AOP-R1____
Is this facility categorized as a major source for PSD? (Y/N) _Y_____
$ 100 tpy and on the list of 28 (100 tpy)? (Y/N) _Y_____
$ 250 tpy all other (Y/N) _____

B. PSD Netting

Was netting performed to avoid PSD review in this permit? (Y/N) _Y_____
If so, indicate increases and decreases used in netting for PSD purposes only. The facility underwent PSD review for TSP, PM_{10}, SO_2, and NO_X. Increases of VOC were below the PSD Significant Increase Level. The only netting done solely for the purpose of avoiding PSD review was done for carbon monoxide.

NETTING TABLE							
Emission Source	Pollutant Emission Rate (TPY)						
	PM	PM_{10}	SO_2	VOC	CO	NO_X	Pb
11Q					+342.19		
24Q					+342.19		
03P					-106.37		
04P					-106.37		
05P					-106.37		
06P					-106.37		
07P					-106.37		
08P					-106.37		
Totals					+47.57		

NETTING TABLE							
Emission Source	Pollutant Emission Rate (TPY)						
	PM	PM_{10}	SO_2	VOC	CO	NO_X	Pb
Significant Emission Rate	25	15	40	40	100	40	0.6
Subject to PSD?					NO		

C. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation
01Q	opacity	40 CFR Part 60, Subpart OOO
02Q	opacity	40 CFR Part 60, Subpart OOO
03Q	opacity	40 CFR Part 60, Subpart OOO
07Q	opacity	40 CFR Part 60, Subpart OOO
08Q	opacity	40 CFR Part 60, Subpart OOO
09Q	opacity	40 CFR Part 60, Subpart OOO
10Q	opacity	40 CFR Part 60, Subpart OOO
11Q	opacity	40 CFR Part 60, Subpart HH
11Q	particulate matter	40 CFR Part 60, Subpart HH
11Q	sulfur dioxide	PSD
11Q	oxides of nitrogen	PSD
21Q	opacity	40 CFR Part 60, Subpart Y
24Q	PM & PM_{10}	40 CFR Part 60, Subpart HH & PSD
24Q	opacity	40 CFR Part 60, Subpart HH
24Q	sulfur dioxide	PSD
24Q	oxides of nitrogen	PSD

Source	Pollutant	Regulation
25Q	PM & PM_{10}	PSD
26Q	PM & PM_{10}	PSD
27Q	opacity	40 CFR Part 60, Subpart OOO
28Q	opacity	40 CFR Part 60, Subpart Y
01P	opacity	40 CFR Part 60, Subpart OOO
30P	opacity	40 CFR Part 60, Subpart OOO
33P	opacity	40 CFR Part 60, Subpart OOO
34P	opacity	40 CFR Part 60, Subpart OOO

9. EMISSION CHANGES:

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	**Air Permit 45-AOP-R1**	**Air Permit 45-AOP-R2**	**Change**
PM	172.0	255.9	83.9
PM_{10}	115.2	163.0	47.8
SO_2	226.9	453.9	227
VOC	14.5	28.7	14.2
CO	345.9	687.9	342
NO_X	403.5	802.8	399.3

10. MODELING:

A. Criteria Pollutants

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

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}*	45.4	50	Annual	47.9	96%
		150	24-hour	139.0	93%
SO_2*	130.7	80	Annual	24.0	30%
		1,300	3-hour	768.0	59%
		365	24-hour	160.0	44%
NO_X*	183.4	100	Annual	18.7	19%
CO	157.3	10,000	8-hour	34.679	0%
		40,000	1-hour	57.25	0%

*Concentrations include background.

B. Non-Criteria Pollutants

There are no permitted emissions of non-criteria pollutants from this facility.

11. CALCULATIONS:

SN	Pollutant	Basis for Emission Factor	Comments
01Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
02Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
03Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
04Q	PM PM_{10}	US EPA report *Control of Open Fugitive Dust Sources*	Storage Piles
05Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
06Q	PM PM_{10}	AP-42 Section 13.2.2 AP-42 Section 13.2.2	Haul Roads

SN	Pollutant	Basis for Emission Factor	Comments
07Q	PM PM_{10}	FIRE 6.01 & AP-42 Section 13.2.4 FIRE 6.01 & AP-42 Section 13.2.4	Throughput
08Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
09Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
10Q	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
11Q	PM PM_{10} SO_2 VOC CO NO_X	Grain loading and stack parameters Grain loading and stack parameters Fuel sulfur content AP-42 coal/coke combustion factors assumed 3.0 lbs/ton of lime BACT limit of 3.5 lbs/ton of lime	Amt. of fuel and lime
12Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	fabric filter type dust collector maximum
	PM PM_{10}	AP-42 emission factors AP-42 emission factors	bin loadout, short term based on capacity
13Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	maximum
14Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	maximum
15Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	maximum
16Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	maximum
17Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	throughput
18Q	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	maximum

SN	Pollutant	Basis for Emission Factor	Comments
19Q	PM PM_{10}	FIRE 6.01 FIRE 6.01	Amt. of Fuel
20Q	PM PM_{10}	US EPA report *Control of Open Fugitive Dust Sources*	Storage Piles
21Q	PM PM_{10}	FIRE 6.01 & AP-42 Section 13.2.4 FIRE 6.01 & AP-42 Section 13.2.4	Amt. of Fuel
22Q/27P	PM PM_{10}	FIRE 6.01 FIRE 6.01	Throughput
23Q/28P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
24Q	PM PM_{10} SO_2 VOC CO NO_X	0.015 gr/dscf and stack parameters 0.015 gr/dscf and stack parameters Fuel sulfur content AP-42 coal/coke combustion factors assumed 3.0 lbs/ton of lime BACT limit of 3.5 lbs/ton of lime	Amt. of fuel and lime
25Q	PM PM_{10}	0.015 gr/dscf and stack parameters 0.015 gr/dscf and stack parameters	permitted at capacity
26Q	PM PM_{10}	0.015 gr/dscf and stack parameters 0.015 gr/dscf and stack parameters	permitted at capacity
27Q	PM PM_{10}	FIRE 6.01 & AP-42 Section 13.2.4 FIRE 6.01 & AP-42 Section 13.2.4	Throughput
28Q	PM PM_{10}	0.015 gr/dscf and stack parameters 0.015 gr/dscf and stack parameters	amount of coal fired
29Q	PM PM_{10}	AP-42 Section 13.2.2 AP-42 Section 13.2.2	Haul Roads
01P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
02P	PM PM_{10}	US EPA report *Control of Open Fugitive Dust Sources*	Storage Piles

SN	Pollutant	Basis for Emission Factor	Comments
03P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln
04P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln
05P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln
06P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln
07P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln
08P	PM PM_{10} SO_2 VOC CO NO_X	Test data Test data AP-42 natural gas combustion factor AP-42 natural gas combustion factor Test data Test data	Vertical Lime Kiln

SN	Pollutant	Basis for Emission Factor	Comments
09P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
12P	PM PM_{10} SO_2 VOC CO NO_X	grain loading and stack parameters grain loading and stack parameters AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor	Maximum, natural gas fired
13P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
14P	PM PM_{10}	AP-42 Section 11.17-4 AP-42 Section 11-17-4	Maximum
15P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
16P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
18P	PM PM_{10} SO_2 VOC CO NO_X	grain loading and stack parameters grain loading and stack parameters AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor	Maximum, natural gas fired
19P	PM PM_{10} SO_2 VOC CO NO_X	grain loading and stack parameters grain loading and stack parameters AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor AP-42 natural gas combustion factor	Maximum, natural gas fired
20P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
21P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum

SN	Pollutant	Basis for Emission Factor	Comments
22P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
23P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
24P	PM PM_{10}	AP-42 Section 11.17-4 AP-42 Section 11-17-4	Throughput
26P	PM PM_{10}	AP-42 Section 13.2.2 AP-42 Section 13.2.2	Haul Roads
29P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
30P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
33P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
34P	PM PM_{10}	grain loading and stack parameters grain loading and stack parameters	Maximum
35P	PM PM_{10}	AP-42 Section 11.17-4 AP-42 Section 11-17-4	Throughput
42P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput
43P	PM PM_{10}	AP-42 Section 11.19.2 AP-42 Section 11.19.2	Throughput

12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN	Pollutant	Test Method	Test Interval	Justification For Test Requirement
01Q	opacity	9	N/A	NSPS requirement
02Q	opacity	9	N/A	NSPS requirement

SN	Pollutant	Test Method	Test Interval	Justification For Test Requirement
03Q	opacity	9	N/A	NSPS requirement
07Q	opacity	9	N/A	NSPS requirement
08Q	opacity	9	N/A	NSPS requirement
09Q	opacity	9	N/A	NSPS requirement
10Q	opacity	9	N/A	NSPS requirement
11Q	opacity	9	N/A	NSPS requirement
11Q	PM	5	N/A	NSPS requirement
11Q	SO_2	6C	5 years	to determine pressure drop range for compliance with the CAM rule
11Q	VOC	25A	N/A	to relate the VOC emissions to the amount of fuel fired
11Q	CO	10	annual	to establish a % O_2 range
11Q	NO_X	7E	annual	to establish a % O_2 range and demonstrate compliance with the BACT limit
11Q	O_2	N/A	annual	to establish a % O_2 range
21Q	opacity	9	N/A	NSPS requirement
24Q	opacity	9	N/A	NSPS requirement
24Q	PM	5	N/A	NSPS requirement
24Q	SO_2	6C	5 years	to determine pressure drop range for compliance with the CAM rule
24Q	VOC	25A	N/A	to relate the VOC emissions to the amount of fuel fired
24Q	CO	10	annual	to establish a % O_2 range
24Q	NO_X	7E	annual	to establish a % O_2 range and demonstrate compliance with the BACT limit

SN	Pollutant	Test Method	Test Interval	Justification For Test Requirement
24Q	O_2	N/A	annual	to establish a % O_2 range
25Q	opacity	9	annual	PSD source but cannot test for PM
26Q	opacity	9	annual	PSD source but cannot test for PM
27Q	opacity	9	N/A	NSPS requirement
28Q	opacity	9	annual	NSPS requirement and PSD source that cannot be tested for PM
30P	PM	5	N/A	NSPS requirement
30P	opacity	9	N/A	NSPS requirement
33P	PM	5	N/A	NSPS requirement
33P	opacity	9	N/A	NSPS requirement
34P	PM	5	N/A	NSPS requirement
34P	opacity	9	N/A	NSPS requirement

13. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc) and frequency of recording. All monitoring or CEMS data must be submitted to the Department in accordance with the permit's general provisions unless otherwise stated.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring	Frequency
11Q & 24Q	opacity	COMS	continuous
11Q & 24Q	sulfur content of fuel	test or manufacturer's certification in combination with amount of natural gas used	each shipment of coal/coke
11Q & 24Q	baghouse pressure drop	continuous monitor	continuous
11Q & 24Q	% O_2 of stack gases	oxygen monitor	continuous

14. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded and frequency of recording. Unless otherwise stated, all records must be submitted to the Department in accordance with the General Provisions of the permit.

SN	Recorded Item	Limit	Frequency
01Q	Limestone throughput	1,300,000 tons per consecutive 12 months	Monthly
02Q	Limestone throughput	1,640,000 tons per consecutive 12 months	Monthly
03Q	Limestone throughput	3,625,000 tons per consecutive 12 months	Monthly
05Q	Limestone throughput	640,000 tons per consecutive 12 months	Monthly
07Q	Limestone throughput	20,271,000 tons per consecutive 12 months	Monthly
08Q	Limestone throughput	120,000 tons per consecutive 12 months	Monthly
09Q	Limestone throughput	822,000 tons per consecutive 12 months	Monthly
10Q	Limestone throughput	900,000 tons per consecutive 12 months	Monthly
11Q	Lime production	625 tons per day	Daily
11Q	Coal/coke usage	47,251 tons per consecutive 12 months	Monthly
12Q	Bin Loadout hours of operation	1,460 hours per consecutive 12 months	Monthly
17Q	Lime throughput	456,250 tons per consecutive 12 months	Monthly

SN	Recorded Item	Limit	Frequency
22Q	Limestone throughput	100,000 tons per consective 12 months	Monthly
23Q	Limestone throughput	1,000 tons per consecutive 12 months	Monthly
24Q	Lime production	625 tons per day	Daily
24Q	Coal/coke usage	47,251 tons per consecutive 12 months	Monthly
27Q	Limestone throughput	450,000 tons per consecutive 12 months	Monthly
01P	Limestone throughput	1,500,000 tons per consecutive 12 months	Monthly
42P	Limestone throughput	43,800 tons per consecutive 12 months	Monthly
43P	Limestone throughput	228,125 tons per consecutive 12 months	Monthly

15. OPACITY

SN	Opacity %	Justification	Compliance Mechanism
01Q	15	40 CFR §60.672(c)	observations
02Q	15	40 CFR §60.672(c)	observations
03Q	10	40 CFR §60.672(b)	observations
07Q	10	40 CFR §60.672(b)	observations
08Q	10	40 CFR §60.672(b)	observations
09Q	10	40 CFR §60.672(b)	observations
10Q	10	40 CFR §60.672(b)	observations
11Q	15	40 CFR §60.342(a)(2)	opacity monitor
12Q	5	baghouse	observations

SN	Opacity %	Justification	Compliance Mechanism
13Q	5	baghouse	observations
14Q	5	baghouse	observations
15Q	5	baghouse	observations
16Q	5	baghouse	observations
17Q	5	baghouse	observations
18Q	5	baghouse	observations
24Q	20	40 CFR §60.342(a)(2)	opacity monitor
25Q	5	baghouse	observations
26Q	5	baghouse	observations
27Q	10	40 CFR §60.672(b)	observations
28Q	5	baghouse	observations
01P	10	40 CFR §60.672(b)	observations
03P	20	emission rate & no control equipment	observations
04P	20	emission rate & no control equipment	observations
05P	20	emission rate & no control equipment	observations
06P	20	emission rate & no control equipment	observations
07P	20	emission rate & no control equipment	observations
08P	20	emission rate & no control equipment	observations
09P	20	emission rate & no control equipment	observations
12P	5	baghouse & natural gas fired	observations
13P	5	baghouse	observations
14P	5	baghouse	observations
15P	5	baghouse	observations
16P	5	baghouse	observations

SN	Opacity %	Justification	Compliance Mechanism
18P	5	baghouse & natural gas fired	observations
19P	5	baghouse & natural gas fird	observations
20P	20	carried over from previous permit	observations
21P	5	carried over from previous permit	observations
22P	5	carried over from previous permit	observations
23P	20	carried over from previous permit	observations
24P	5	carried over from previous permit	observations
29P	5	baghouse	observations
30P	7	NSPS limit	observations
33P	7	NSPS limit	observations
34P	7	NSPS limit	observations
42P	20	uncontrolled emissions	observations
43P	20	uncontrolled emissions	observations

16. DELETED CONDITIONS:

No conditions were deleted from permit #45-AOP-R1.

17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

Permit #
45-AOP-R1

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

_____
Steve Patrick, P.E.