STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0045-AOP-R10 AFIN: 32-00014

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arkansas Lime Company
600 Limedale Road
Batesville, Arkansas 72503

3. PERMIT WRITER:

Bart Patton

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Lime Manufacturing
NAICS Code: 327410

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

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
10/5/2021	Modification	Increase Daily Throughput Limit at SN-30Q Lime Kiln #3

6. REVIEWER'S NOTES:

Arkansas Lime Company owns and operates a limestone quarry and lime manufacturing plant near Batesville, in Independence County, Arkansas. The following changes are included in this modification of the Title V permit:

- Increase daily throughput limit at SN-30Q (Kiln #3)
- Add a one-time testing requirement for HCl at SN-30Q
- Add Plantwide Condition #7 about construction timelines

Permitted annual emissions were unchanged.

On June 25, 2003, stack testing for HCl was conducted at the Batesville facility using ASTM Method D 6735-01 on one of the lime kilns on site. The throughput rate in that test correlates to a daily rate of 624 tons of lime per day (tpd). Given the requirement in Regulation 18.1002(D) that emissions testing shall be performed with the equipment being tested operating at least at 90% of its permitted capacity, the highest throughput limit allowable would have been 693 tpd. SN-30Q was permitted at 687 tpd, acceptable within the requirements of Regulation 18.1002(D).

Testing at an effective daily rate of 624 tpd resulted in an emission factor of 0.123 lb HCl/ton of lime. Multiplying this by the testing throughput of 26 tph gave an emission rate of 3.2 lb HCl/hr. Using the permitted throughput rate (687 tpd) and no factor of safety would have resulted in an emissions limit of 3.6 lb HCl/hr. After applying the permitted throughput rate and a factor of safety, SN-30Q was conservatively permitted at 8.00 lb HCl/hr.

This permit allows an increase to the daily throughput at SN-30Q, from 687 tpd to 750 tpd, while leaving the annual throughput limit unchanged. This will allow the facility to process an equivalent amount of lime either with less firing time or with fewer kilns in use, resulting in lower fuel usage long-term. 750 tpd is above the throughput rate allowed based on the 2003 testing, so the permittee must test SN-30Q at a throughput rate at least 90% of the new rate (750 tpd x 90% = 675 tpd) or propose another way to satisfy the requirements of Regulation 18.

SN-30Q throughput rates		
Permit revision	Tested Throughput (tons of Lime per day or hour)	Permitted Throughput (tons of Lime per day or hour)
R9 and prior	624 tpd	687 tpd 693 tph maximum under Reg 18.1002
R10	28.13 tph minimum 675 tpd minimum	750 tpd (equivalent to 31.25 tph)

The facility did not request an increase to the hourly HCl limit. Because the previous factor of safety was large, the facility's current hourly HCl limit was left unchanged, based on the expectation that the facility's stack testing of SN-30Q will show an emission rate below the currently permitted rate of 8.00 HCl/hr.

OAQ granted the facility's request to allow the HCl testing to be performed at the same time as other testing already planned for June 2023.

7. COMPLIANCE STATUS:

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

The facility was last inspected on May 20, 2022, and no violations were found during the inspection.

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

If yes for 8(b), explain why this permit modification is not PSD.

The facility asserts that the production increase at SN-30Q is not based on a physical change to the equipment. DEQ requested a PSD applicability analysis because increasing a production rate is considered a change in the method of operation.

This modification is expected to give the permittee the flexibility to operate fewer of its three kilns, to operate for less time, or some combination of the two. Cold starting an additional kiln is economically wasteful for the permittee. The annual limit is not changing for any of the kilns. Because the three kilns are in parallel and fed from a surge pile, increased short-term throughput at SN-30Q is throughput that could have gone through another of the kilns, possibly at a slower short-term rate, but at the same long-term rate. From the facility's PSD analysis:

> Note that the equipment upstream and downstream of the #3 Kiln is shared between all three kilns. In effect, any marginal additional lime produced in the #3 Kiln would not need to be produced in the other kilns, so there would be no effect on associated upstream/downstream emissions from the lime kilns.

Current BACT emission limits and emission factors for pollutants considered in this PSD analysis correlate to pounds of pollutant per ton of Lime (throughput), and are not changing.

Emission Factor (a constant) x Throughput Rate increase = Emission Factor x

(Projected Future Actual Rate – Past Actual Rate with Demand Growth)

Because this emission factor is not affected, emission changes in the PSD analysis may be evaluated using throughput rates.

The facility's baseline actual throughput rate was 201,623 tons of Lime, from the period August 2016 through July 2018. The facility believes that its permitted annual rate of 228,125 tons of Lime is a reasonable estimate of future annual lime production at SN-30Q over the next 10 years, using it as its Projected Future Actual Rate.

During August 2016, SN-30Q, 32Q, and the equipment supporting it achieved a one-month production rate of 20,569 tons of Lime. The facility's Past Actual Rate with Demand Growth (also called the Could-Have-Accommodated Rate) would be 20,569 tons per month x 12 months per year, which is 246,828 tons of Lime per year.

Throughput increase = Projected Future Actual – Past Actual with Demand Growth

= 228,125 – 246,828 tons of Lime per year

However, this is greater than the maximum permitted rate. The facility must limit its Past Actual Rate with Demand Growth to what it could legally accommodate, as well as physically accommodate. The permitted annual rate of 228,125 tons is used as the facility's Past Actual Rate with Demand Growth.

Throughput increase = 228,125 – ~~246,828~~ **228,125 = 0**

Because those two rates are the same, the result is no increase in throughput, resulting in zero annual emissions increase in this review.

An increase to hourly emissions (without an increase to annual emissions) is not a part of the PSD calculation. For this modification, the increase to hourly emissions was considered for a possible debottlenecking effect, but it was not found to have this effect. Processing lime at a higher hourly rate is expected to allow the facility to run fewer kilns, or to run kilns for fewer hours. The semi-annual monitoring reports for both the baseline period (August 2016 through July 2018) and the year 2021 show that the facility tends to operate the kilns as described—that is, the kilns tend to operate at a reasonably high throughput rate or not at all, and when a kiln is not in operation, it tends to remain not in operation for an extended period of time, typically several weeks. If equipment upstream of the kilns were bottlenecked by the kilns, the natural response would be for the facility to operate the kilns more than it already does. Allowing for a small amount of variation, equipment downstream of the kilns should have the same throughput rate as the kilns.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
01Q, 02Q, 03Q, 07Q, 09Q, 10Q, 27Q, 31Q, 35Q, 36Q, 46Q, 47Q, 01P, 19P, 30P, 33P, 34P, and 36P	PM and PM_{10}	40 CFR 60, Subpart OOO New Source Performance Standards for Non Metallic Mineral Processing Plants
11Q, 24Q, and 30Q	PM and PM_{10}	40 CFR 60, Subpart HH New Source Performance Standards for Lime Manufacturing Plants
21Q, 28Q, and Coal systems	PM and PM_{10}	40 CFR 60, Subpart Y New Source Performance Standards for Coal Preparation Plants
07Q, 11Q, 24Q, 27Q, 30Q, and 35Q	PM and PM_{10}	40 CFR 63, Subpart AAAAA National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants
SN-43Q	N/A	40 CFR Part 63 subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
11Q, 24Q, 25Q, 26Q, 27Q, 28Q, 30Q through 39Q	PM, PM_{10}, SO_2, CO, NO_x	40 CFR 52 Prevention of Significant Deterioration
11Q, 13Q, 15Q, 24Q, 25Q, 32Q, 12P, 18P, and 19P	PM and PM_{10}	40 CFR 64 Compliance Assurance Monitoring

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
None				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
11Q, 24Q, 30Q	SO_2	Daily limits and rolling 30-day limits on sulfur content in coal burned
13Q, 15Q, 25Q, 32Q, 12P, 18P, 19P	PM/PM_{10}	Daily observation for visible emissions

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. 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 DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Non-criteria pollutants were unchanged from R9.

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Hydrogen Chloride	2.98	0.3282	24.0	N
Acrolein	0.229	2.52E-02	2.27E-04	Y
Arsenic	0.041	4.51E-03	3.05E-06	Y
Beryllium	0.5E-04	5.5E-06	1.83E-07	Y
Cadmium	0.01	1.1E-03	1.68E-05	Y
Chromium	0.01	1.1E-03	2.14E-05	Y
Cobalt	0.02	2.2E-03	1.28E-06	Y
Manganese	0.02	2.2E-03	5.8E-06	Y
Mercury	0.025	2.75E-03	3.97E-06	Y
Nickel	0.2	0.022	3.2E-05	Y
Selenium	0.2	0.022	3.66E-07	Y

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Division of Environmental Quality to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
HCl	29.8	7.51	Y

c) No other modeling was required.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01Q	AP-42, Section 11.19.2	0.00120 lb PM/ton 0.00054 lb PM_{10}/ton	None	n/a	384 tph. 1,251,200 tpy.
02Qb	AP-42, Section 11.19.2	0.00120 lb PM/ton 0.00054 lb PM_{10}/ton	None	n/a	402 tph. 1,746,468 tpy.
03Qa	AP-42, Section 11.19.2	0.00220 lb PM/ton 0.00074 lb PM_{10}/ton	None	n/a	852 tph. 3,701,467 tpy.
03Qb					450 tph. 1,955,000 tpy.
03Qc					452 tph. 1,500,040 tpy.
04Q	EPA's Control of Open Fugitive Dust Sources, 9/1988	See document	None	n/a	
05Q	AP-42, Section 11.19.2-2	0.00030 lb PM/ton 0.00010 lb PM_{10}/ton	None	n/a	240 tph. 640,000 tpy.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
06Q	AP-42 Emission factor equation for unpaved roads, Table 13.2.2-1, Figure 13.2.2-1 and Figure 13.2.2-2	k, a, b PM: 4.9, 0.7, 0.45 PM_{10}: 1.5, 0.9, 0.45 s = 8.3% silt p = 105 days/yr 36t payload + 34t truck = 70 ton loaded truck (34+70)/2 = 52 ton mean W = 52t avg truck	Road watering	75%	0.9 mi/rd trip * (1 rd trip / 36 t payload) *1,955,000 tons rock/yr = 48,875 VMT/yr. 4380 nominal op hr/yr = ~1.99 max VMT/hr.
07Q	AP-42, Section 11.19.2-2 and AP-42 Section 13.2.4	Numerous Factors	Enclosure on D06 Kiln Feed Belt	85% PM on D06	
09Q	AP-42, Section 11.19.2	0.00220 lb PM/ton 0.00074 lb PM_{10}/ton	None	n/a	300 tph. 822,000 tpy.
10Q	AP-42, Section 11.19.2	0.00220 lb PM/ton 0.00074 lb PM_{10}/ton	None	n/a	250 tph. 1,368,750 tpy.
11Q	PM/ PM_{10} MACT PM_{10} Condensables AP-42, Table 11.17-2 SO_2 Mass balance VOC AP-42 CO BACT levels NO_X BACT levels	0.12 lb/tsf 0.38 lb/ton 3% by weight (long term) and 4% by weight (short term) 0.6 lb/ton 3.0 lb/ton produced 3.5 lb/ton produced	Dust Coll. Dry Scrub	99% PM 95% SO_2	
12Qa	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	2000 dscfm
12Qb	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1500 dscfm
13Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	3000 dscfm
14Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1500 dscfm
15Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	14000 dscfm

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
16Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1400 dscfm
17Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1400 dscfm
18Q	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1400 dscfm
19Q	AP-42 Section 13.2.4	0.00136 lb PM/ton 0.000642 lb PM_{10}/ton	None	n/a	
20Qa/b	EPA's Control of Open Fugitive Dust Sources	See Document	None	n/a	
21Q	AP-42 Section 13.2.4	0.00136 lb PM/ton 0.000642 lb PM_{10}/ton	None	n/a	
22Q	AP-42, Section 11.19.2-2	0.00030 lb PM/ton 0.0001 lb PM_{10}/ton	None	n/a	
24Q	PM/ PM_{10} MACT PM_{10} Condensables AP-42, Table 11.17-2 SO_2 Mass balance VOC AP-42 CO BACT levels NO_X BACT levels	0.10 lb/tsf 0.38 lb/ton 3% by weight (long term) and 4% by weight (short term) 0.6 lb/ton 3.0 lb/ton produced 3.5 lb/ton produced	Dust Coll. Dry Scrub	99% PM 95% SO_2	
25Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	3000 dscfm
26Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	2000 dscfm
27Q	AP-42 Section 13.2.4	0.00309 lb PM/ton 0.00146 lb PM_{10}/ton	Enclosure	85% PM	
28Q	AP-42 Section 13.2.4	0.00136 lb PM/ton 0.000641 lb PM_{10}/ton	Enclosure	85% PM	
29Q	AP-42 Emission factor equation for paved roads, AP-42 Section 13.2.1	Factors based on usage and location	None	n/a	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
30Q	PM/ PM_{10} MACT PM_{10} Condensables AP-42, Table 11.17-2	0.10 lb/tsf 0.38 lb/ton lime	Dust Coll.	99% PM	1 ton stone feed (tsf) = 0.5 ton lime output. 625 t lime output/ day = 1250 tsf/day. 750 t lime/ output/ day = 1500 tsf/day.
30Q	SO_2 Mass balance	3% by weight (long term) and 4% by weight (short term)	Dry Scrub	95% SO_2	For hourly emissions: 750 t lime/ day per kiln, 24 hr day. For annual emissions: 228,125 t/yr per kiln, 365 day/yr = 625 t/day.
30Q	VOC AP-42, table 1.1-19 CO BACT levels NO_X BACT levels	0.6 lb/ton 3.0 lb/ton produced 3.5 lb/ton produced			
30Q	SN-11Q 2003 HCl testing: 3.12 lb /hr (8.00 lb/hr used, to be conservative)				2003 testing was at 26 tph lime (= 624 tpd).
31Q	AP-42, Section 11.19.2-2 and AP-42 Section 13.2.4	0.000140 lb PM/ton 0.000046 lb PM_{10}/ton and 0.00309 lb PM/ton 0.00146 lb PM_{10}/ton	None	n/a	
32Q	BACT/ Grain Loading	0.010 gr/dscf	Dust Coll.	99% PM	3000 dscfm
33Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1000 dscfm

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
34Q	AP-42 Section 13.2.4	0.00136 lb PM/ton 0.000641 lb PM_{10}/ton	Enclosure	85% PM	
35Q	AP-42, Section 11.19.2-2	0.00309 lb PM/ton 0.00146 lb PM_{10}/ton	Enclosure	85% PM	
36Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	7000 dscfm
37Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	7000 dscfm
38Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1400 dscfm
39Q	BACT/ Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1400 dscfm
40Q	AP-42 Section 13.2.4	0.0776 lb PM/ton 0.00367 lb PM_{10}/ton	None	n/a	
41Q	AP-42 Section 13.2.4	0.0776 lb PM/ton 0.00367 lb PM_{10}/ton	None	n/a	
43Q	Vendor specs, with HAP from AP-42 Table 3.3-2	g/hp-hr 0.04 PM/PM_{10} 0.115 SO_2 0.046 VOC 0.77 CO 3.42 NO_x lb/MMBtu 3.87E-3 total HAP	None	n/a	382 hp. 453.6 g/lb. 19.59 gal/hr * 0.139 MMBtu/gal = 2.72301 MMBtu/hr. 500 hr/yr.
46Q	AP-42, Section 11.19.2 Table 11.19.2-2	lb/ton: Screening 0.0022 PM 0.00074 PM_{10} Conveyor transfer points 1.4E-04 PM 4.6E-05 PM_{10}	Water spray as needed	n/a	500 tph, 8760 op hr/yr.
47Q	AP-42, Section 11.19.2-2	1.4E-04 PM 4.6E-05 PM_{10} 1.3E-05 $PM_{2.5}$	None	n/a	
01P	AP-42, Section 11.19.2-2 and AP-42 Section 13.2.4	Numerous Factors	Partial Enclosure for B	85% PM for B	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
12P	Grain Loading and Natural Gas factors	0.020 gr/dscf 100 lb/MMscf NO_X 84 lb/MMscf CO 5.5 lb/MMscf VOC 0.6 lb/MMscf SO_2	Dust Coll.	99% PM	10730 dscfm. 4 MMBtu/hr. 1020 Btu/scf. 8760 hr/yr.
13P	Grain Loading	0.020 gr/dscf	Dust Coll.	99% PM	1200 dscfm
14P	AP-42, Table 11.17-4	0.0915 lb PM/ton 0.0305 lb PM_{10}/ton	None	n/a	
18P	Grain Loading and Natural Gas factors	0.020 gr/dscf 100 lb/MMscf NO_X 84 lb/MMscf CO 5.5 lb/MMscf VOC 0.6 lb/MMscf SO_2	Dust Coll.	99% PM	15000 dscfm 6.3 MMBtu/hr. 1020 Btu/scf. 8760 hr/yr.
19P	Grain Loading and Natural Gas factors	0.020 gr/dscf 100 lb/MMscf NO_X 84 lb/MMscf CO 5.5 lb/MMscf VOC 0.6 lb/MMscf SO_2	Dust Coll.	99% PM	10100 dscfm 5.25 MMBtu/hr. 1020 Btu/scf. 8760 hr/yr.
20P	AP-42, Section 11.19.2-2	0.04500 lb PM/ton 0.01080 lb PM_{10}/ton	None	n/a	30 tph. 262,800 tpy.
24P	AP-42, Table 11.17-4	0.0915 lb PM/ton 0.0305 lb PM_{10}/ton	None	n/a	
26P	AP-42 Emission factor equation for paved roads, Section 13.2.1	Factors based on usage and location	None	n/a	
29P	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1200 dscfm
30P	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	2500 dscfm
33P	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1200 dscfm
34P	Grain Loading	0.015 gr/dscf	Dust Coll.	99% PM	1200 dscfm
35P	AP-42, Table 11.17-4	0.0225 lb PM/ton 0.0750 lb PM_{10}/ton	None	n/a	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
36P	NSPS OOO/ Grain Loading	0.022 gr/dscf	Dust Coll.	99% PM	900 dscfm. Instl 2005. NSPS OOO, Table 2.

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
11Q	PM NO_X CO stone feed rate monitor	5 7E 10 Mass throughput test	Every 5 Years	Dept. Guidance
24Q	PM NO_X CO stone feed rate monitor	5 7E 10 Mass throughput test	Every 5 Years	PSD
30Q	PM NO_X CO stone feed rate monitor	5 7E 10 Mass throughput test	Every 5 Years	PSD
	HCl	See SC#164	One-time	Rule 18.1002, R10 increase to daily throughput limit
46Q	Opacity	9	Initial test	NSPS Subpart OOO

17. 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)
11Q	Opacity	COM	Continuous	Only periods of excess: See Plantwide Condition #10
11Q	$\%O_2$	CEM	Continuous	N
24Q	Opacity	COM	Continuous	Only periods of excess: See PWC #10
24Q	$\%O_2$	CEM	Continuous	N
30Q	Opacity	COM	Continuous	Only periods of excess: See PWC #10
30Q	$\%O_2$	CEM	Continuous	N

18. 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)
01Q	Tons of Limestone	1,251,200 per 12 month period	Monthly	N
02Qb	Tons of Limestone	1,746,468 per 12 month period	Monthly	N
03Qa	Tons of Limestone	3,701,467 per 12 month period	Monthly	N
03Qb	Tons of Limestone	1,955,000 per 12 month period	Monthly	N
03Qc	Tons of Limestone	1,500,040 per 12 month period	Monthly	N
05Q	Number of Railcars	16,000 per 12 month period	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
09Q	Tons of Limestone	822,000 per 12 month period	Monthly	N
10Q	Tons of Limestone	1,368,750 per 12 month period	Monthly	N
11Q	Tons of Coal/Coke	47,254 per 12 month period	Daily	N
11Q	Tons of Lime	687.0 per day, 228,125 per 12 month period	Daily	Y (Annual Total)
11Q	Ash Mineral Content	Maximum allowable to keep HAPs below Deminimis levels	Each New Mine	N
11Q	Particulate Emission Rate	0.12 lb/ton of Stone Fed	Each Run	N
11Q	Sulfur Content of Fuel	4% by weight daily 3% by weight 30 day average	Each Shipment	N
11Q	NO_X emissions	3.5 lb/ton of Lime	Continuous $\%O_2$	N
11Q	Performance Test Data	See Plantwide Conditions #10 and #11 and 40 C.F.R. § 60.344	5 years	Y
11Q	Inspection of Filter	N/A	Annually	N
11Q	Calibration of O_2 monitor	N/A	4 weeks and during cell replacement	N
19Q	Tons of Coal/Coke	141,759 per 12 month period	Monthly	N
22Q	Tons of Limestone	200,000 per 12 month period	Monthly	N
24Q	Tons of Coal/Coke	47,253 per 12 month period	Daily	N
24Q	Tons of Limestone	687.0 per day 228,125 per 12 month period	Daily	Y (Annual total)
24Q	Ash Mineral Content	Maximum allowable to keep HAPs below Deminimis levels	Each New Mine	N
24Q	Particulate Emission Rate	0.10 lb/ton of Stone Fed	Each Run	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
24Q	Sulfur Content of Fuel	4% by weight daily 3% by weight 30 day average	Each Shipment	N
24Q	NO_X emissions	3.5 lb/ton of Lime	Continuous $\%O_2$	N
24Q	Performance Test Data	See Plantwide Conditions #10 and #11 and 40 C.F.R. § 60.344	5 years	Y
24Q	Inspection of Filter	N/A	Annually	N
24Q	Calibration of O_2 monitor	N/A	4 weeks and during cell replacement	N
25Q	Cause of any visible emission exceedance and Corrective Action	5%	Daily	N
30Q	Tons of Coal/Coke	47,253 per 12 month period	Daily	N
30Q	Tons of Limestone	750.0 per day 228,125 per 12 month period	Daily	Y (Annual total)
30Q	Ash Mineral Content	Maximum allowable to keep HAPs below Deminimis levels	Each New Mine	N
30Q	Particulate Emission Rate after 1/5/07	0.10 lb/ton of Stone Fed	Each Run	N
30Q	Sulfur Content of Fuel	4% by weight daily 3% by weight 30 day average	Each Shipment	N
30Q	NO_X emissions	3.5 lb/ton of Lime	Continuous $\%O_2$	N
30Q	Performance Test Data	See Plantwide Conditions #10 and #11 and 40 C.F.R. § 60.344	5 years	Y
30Q	Inspection of Filter	N/A	Annually	N
30Q	Calibration of O_2 monitor	N/A	4 weeks and during cell replacement	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
31Q	Tons of Limestone	1,100,000 per 12 month period	Monthly	N
32Q	Particulate Emission Rate	0.010 gr/dscf	Annual	N
33Q	Particulate Emission Rate	0.015 gr/dscf	Annual	N
35Q	Tons of Limestone	450,000 per 12 month period	Monthly	N
36Q	Particulate Emission Rate	0.015 gr/dscf	Annual	N
37Q	Particulate Emission Rate	0.015 gr/dscf	Annual	N
38Q	Particulate Emission Rate	0.015 gr/dscf	Annual	N
39Q	Particulate Emission Rate	0.015 gr/dscf	Annual	N
43Q	Hours of Operation and Description of Use	500 hr/yr total 100 hr/yr maintenance 50 hr/yr non-emergency	Each use	N
43Q	Maintenance Performed	See SC#232, 233, 236, and 237	As Needed	N
47Qa	Tons of Limestone	1,672,611 per 12 month period	Monthly	N
47Qb	Tons of Limestone	250,892 per 12 month period	Monthly	N
01P	Tons of Limestone	432,000 per 12 month period	Monthly	N
14P	Tons of Bagged Hydrated Lime	35,040 per 12 month period	Monthly	N
20P	Tons of Pulverized Limestone	262,800 per 12 month period	Monthly	N
24P	Tons of Pulverized Limestone	35,040 per 12 month period	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01Q	15%	NSPS OOO	Weekly Observations
02Qb	12%	NSPS OOO	Weekly Observations
03Qa	10%	NSPS OOO	Weekly Observations
03Qb	7%	NSPS OOO	Weekly Observations
03Qc	7%	NSPS OOO	Weekly Observations
05Q	20%	Dept. Guidance	Daily Observations
07Q	7%	NSPS OOO MACT AAAAA	Weekly Observations
09Q	10%	NSPS OOO	Weekly Observations
10Q	10%	NSPS OOO	Weekly Observations
11Q	15%	NSPS HH MACT AAAAA	COM
12Q(a&b)	5%	Dept. Guidance	Weekly Observations
13Q	5%	CAM	Daily Observations
14Q	5%	Dept. Guidance	Weekly Observations
15Q	5%	CAM	Daily Observations
16Q	5%	Dept. Guidance	Weekly Observations
17Q	5%	Dept. Guidance	Weekly Observations
18Q	5%	Dept. Guidance	Weekly Observations
19Q	20%	Dept. Guidance	Weekly Observations
20Q	20%	Dept. Guidance	Weekly Observations
21Q	20%	Dept. Guidance	Weekly Observations
22Q	20%	Dept. Guidance	Weekly Observations
24Q	15%	NSPS HH MACT AAAAA	COM
25Q	5%	CAM	Daily Observations
26Q	5%	Dept. Guidance	Weekly Observations
27Q	10%	MACT AAAAA	Weekly Observations

SN	Opacity	Justification for limit	Compliance Mechanism
28Q	20%	Dept. Guidance	Weekly Observations
30Q	15%	NSPSHH MACT AAAAA	COM
31Q	20%	NSPS OOO	Weekly Observations
32Q	5%	CAM	Daily Observations
33Q	5%	Dept. Guidance	Weekly Observations
34Q	20%	Dept. Guidance	Weekly Observations
35Q	10%	MACT AAAAA	Weekly Observations
36Q	5%	Dept. Guidance	Weekly Observations
37Q	5%	Dept. Guidance	Weekly Observations
38Q	5%	Dept. Guidance	Weekly Observations
39Q	5%	Dept. Guidance	Weekly Observations
43Q	20%	Dept. Guidance	Daily when operating
46Q	7%	NSPS OOO	Weekly Observations
47Qa	7%	NSPS OOO	Weekly Observations
47Qb	7%	NSPS OOO	Weekly Observations
01P	10%	NSPS OOO	Weekly Observations
12P	5%	CAM	Daily
13P	5%	Dept. Guidance	Weekly Observations
14P	5%	Dept. Guidance	Weekly Observations
18P	5%	CAM	Daily
19P	5%	CAM	Daily
20P	20%	Dept. Guidance	Weekly Observations
24P	5%	Dept. Guidance	Weekly Observations
29P	5%	Dept. Guidance	Weekly Observations
30P	7%	NSPS OOO	Weekly Observations
33P	10%	NSPS OOO	Weekly Observations
34P	10%	NSPS OOO	Weekly Observations

SN	Opacity	Justification for limit	Compliance Mechanism
35P	20%	Dept. Guidance	Weekly Observations
36P	7%	NSPS OOO	Weekly Observations

20. DELETED CONDITIONS:

Former SC	Justification for removal
None	

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Lime Cooler Rejects Discharge	A-13	0.06 0.06						
Dribble Chute Discharge	A-13	0.01 0.01						
Railcar Cleanout	A-13	0.821 0.821						
Blast Hole Drilling	A-13	0.08 0.08						
Quarry Blasting	A-13	<5tpy <5tpy						
Portable Conveyor	A-13	0.19 0.09						
Big Bag Filling	A-13	0.4 0.4						
8,000 gallon Diesel Storage Tank	A-3			0.01				
1,000 gallon Diesel Storage Tank	A-3			0.01				
2 X 500 gallon Diesel Storage Tanks	A-3			0.01				

Source Name	Group A Category	Emissions (tpy)						
		PM PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
1,000 gallon Gasoline Tank	A-3			0.4				
2 X 1,000 gallon Lube Oil Storage Tanks	A-3			0.1				
Hydrate Rejects Discharge	A-13	0.01						
Stone Bagging Dust Collector (vents back inside building)	N/A							
Portable Water Pumps Engines and Trommel Screen Engine (non-stationary engines not subject to NSPS or NESHAP rules)	N/A							
Sorting Machines (no emissions)	N/A							

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0045-AOP-R9

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Arkansas Lime Company
Permit Number: 0045-AOP-R10
AFIN: 32-00014

$/ton factor	25.13	Annual Chargeable Emissions (tpy)	2106.64
Permit Type	Modification	Permit Fee $	1000

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
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		328.2	328.2	0	0	328.2
PM_{10}		328.1	328.1	0		
$PM_{2.5}$		0	0	0		
SO_2		426	426	0	0	426
VOC		43.8	43.8	0	0	43.8
CO		1034.1	1034.1	0		
NO_X		1213	1213	0	0	1213
HCl	☑	95.64	95.64	0	0	95.64

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Total Other HAPs excl HCl	☐	0.16	0.16	0		