RESPONSE TO COMMENTS
Arkansas Lime Company
AFIN#: 32-00014, Permit #: 0045-AOP-R4

On, July 22, 2008 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, one interested party submitted written comments, data, views, or arguments on the draft permitting decision. The Department's response to these issues is as follows:

Comment #1: Specific Conditions 73, 143, and 201

The permit language does not reflect ALC's request to eliminate the requirement to have a sulfur analysis certificate for each shipment of coal/coke. This requirement is problematic since it could be construed that each truck or railcar load of coal/coke should have a dedicated sulfur analysis, which is not practicable. Historically, it should be noted that the sulfur content has minimum variability from individual suppliers. ALC currently performs weekly analyses on solid fuels to determine compliance with the permit. Therefore, ALC proposes the following permit condition to address this issue and to replace Specific Condition 73, 143, and 201.

"The permittee shall perform sulfur content analyses on a representative sample of coal and coke in the fuel storage area. The analyses shall be performed on both fuel sources at least once each calendar week. The results of the weekly analyses shall be used to determine compliance with the daily and 30-day average fuel sulfur limits contained in <insert previous permit condition #>. The sulfur data obtained in a given week shall be used for the sulfur content calculations until new data is available from the subsequent weekly fuel analyses. These records shall be updated weekly, shall be kept on site, and shall be made available to Department personnel upon request."

Response #1: The comment has been withdrawn. No changes will be made to Specific Conditions 73, 143, and 201.

Comment #2: Specific Condition #182

The issue is to be resolved is that of requiring condensable particulate matter to be included as part of the particulate matter emission limit for the #3 kiln. The ADEQ has satisfactorily clarified the confusing issue for the #1 and the #2 Kilns, but has not done so for the #3 Kiln. ALC's position is that the #3 kiln should be treated in the same manner as the #1 and the #2 Kilns and not be required to include Method 202 condensable particulate matter to show compliance with the state PM/PM_{10} limit of 5.8 lb/hr. In addition, due to concerns about the reliability and the accuracy

of Method 202, the US EPA is not currently requiring states to address condensable PM in establishing emission limits for either PM_{10} or $PM_{2.5}$.

In this final NSR rule, EPA will not require that States address condensable PM in establishing enforceable emission limits for either PM_{10} or $PM_{2.5}$, in NSR permits until the completion of a transition period, as described herein. In response to significant comments on the variability of test methods available for measuring condensable emissions, we have adopted this transition period approach to allow us to assess the capabilities of the test methods and possibly revise them to improve performance. The transition period will end January 1, 2011 unless EPA advances this date through the rulemaking process described below.

Given that the #3 Kiln PM10 emission limits were established in an NSR/PSD permit, EPA's May 16, 2008 rulemaking is directly applicable to our situation. In addition, the lb/hr limit (5.8) in Specific condition #171 is based on the Lime MACT lb/ton limit (0.10 lb/ton stone feed) in Specific Condition #181. The Lime MACT (40 CFR 63, Subpart AAAAA) requires compliance demonstration based on solely Method 5 results.

Response #2: All Method 202 testing requirements have been removed from the permit pending EPA guidance for condensable particulate matter testing.

Comment #3: Specific Conditions #7, #15, #21, #37, #112, #252

In our suggested language, we failed to include the concept of water sprays being used only when necessary, when the material is not already sufficiently damp from recent rainfall. This being the case, the following generic language is suggested:

"The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source <insert appropriate SN number>. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions."

Response #3: The language has been changed as requested so that the facility may forgo the use of water sprays in cases where rainfall has made the material sufficiently damp to control fugitive emissions.

Comment #4: Hydrate Rejects Stockpile and Hydrate Rejects Discharge

The draft permit does not correctly address these sources. The Hydrate Rejects Stockpile is included as part of SN-04Q.

a. *The Hydrate Rejects Discharge was addressed as new source SN-44P in the application. Please add this source to the permit.*
b. *The Source Description for SN-04Q erroneously mentions the Hydrate Rejects Discharge instead of the Hydrate Rejects Stockpile.*

Also, the section heading for SN-04Q would now more correctly read "Storage Piles" since materials other than limestone are concerned.

Response #4: The Hydrate Rejects Discharge was added as a new source, SN-44P. Emissions for this source are 0.6 lb/hr and 2.2 tpy. The Hydrate Rejects Stockpile was added to SN-04Q. The source name for SN-04Q has also been changed to "Storage Piles."

Comment #5: Specific Conditions #298 thru #300

The 1,000 gallon gasoline storage tank was listed as an insignificant activity in the permit application, but the ADEQ has listed it as a significant source with permit limits. It is our understanding that small fuel tanks are routinely permitted as insignificant sources. Please move this source to the Insignificant Activities table in Section VII of the permit.

In the alternative, if the ADEQ insists on keeping this as a significant source, then the following is proposed:

a. *A 20,000 gallon/hr throughput (as appears in the draft permit)*
b. *No Reid Vapor Pressure limitations. An updated TANKS4 run is included as an attachment to the comments, which utilizes a 15 RVP value (the highest in the TANKS4 menu) which should satisfy the ADEQ as a worst-case emission scenario.*
b. *An annual VOC limit of 721 lb VOC/yr (a large overestimate of likely actual emissions).*

Response #5: The tank will be added to the Insignificant Activities list as an A-13 activity. The facility is correct in that the Department routinely permits these small tanks that do not fit into an A-2 or A-3 category, as an A-13 if emissions are within the thresholds. Since the tank is only 1,000 gallons and would have emissions of only 0.4 tpy (using worst-case gasoline rating), it is reasonable to change it to an A-13 activity.

Comment #6: Several minor administrative or typographical changes are requested.

- *Add "tons per year" to the end of the sentence in the Summary of Permit Activity, 2nd bullet item.*

- *The line items for the three kilns denote "HCL**." The "**" appears to be a typographical error. ** denotes an Air Contaminant. HCl is a non-VOC HAP, not an Air Contaminant..*
- *SN-19Q should be called the Coal/Coke Receiving Area, as denoted in the 9/14/2007 application in the Emission Summary Table and the Source Description Page.*
- *The language should reference SN-09Q (not SN-09) in Specific Condition #15.*
- *For Sections SN-15P and SN-16P, as denoted in the permit application, these sources no longer operate. A note should be placed in the Source Description to denote this so there is no confusion with the inspector*

Response #6: These typographical changes have been made as requested.

Comment #7: Open Top Truck Loading, a previously insignificant source, was left out of the draft permit.

Response #7: The source has been added to the permit. Emissions are 37.5 lb/hr and 1.0 tpy of particulate. A 20% opacity has been assigned to the source along with an 12-month rolling limit of 50 trucks.

ADEQ

ARKANSAS
Department of Environmental Quality

May 22, 2009

Jim Longenbach
Vice President & Plant Manager
Arkansas Lime Company
600 Limedale Road
Batesville, AR 72503

Dear Mr. Longenbach:

The enclosed Permit No. 0045-AOP-R4 is issued pursuant to the Arkansas Operating Permit Program, Regulation # 26.

After considering the facts and requirements of A.C.A. §8-4-101 et seq., and implementing regulations, I have determined that Permit No. 0045-AOP-R4 for the construction, operation and maintenance of an air pollution control system for Arkansas Lime Company to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under §2.1.14 of Regulation No. 8, Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, within thirty (30) days after service of this decision.

All persons submitting written comments during this thirty (30) day period, and all other persons entitled to do so, may request an adjudicatory hearing and Commission review on whether the decision of the Director should be reversed or modified. Such a request shall be in the form and manner required by §2.1.14 of Regulation No. 8.

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. : 0045-AOP-R4
Renewal #1
IS ISSUED TO:
Arkansas Lime Company
600 Limedale Road
Batesville, AR 72503
Independence County
AFIN: 32-00014

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 30, 2005 AND August 29, 2010

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

Signed:

Mike Bates

Michael Bates
Chief, Air Division

May 22, 2009
Date

Table of Contents

Arkansas Lime Company
Permit #: 0045-AOP-R4
AFIN: 32-00014

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:	Arkansas Lime Company
AFIN:	32-00014
PERMIT NUMBER:	0045-AOP-R4
FACILITY ADDRESS:	600 Limedale Road Batesville, AR 72503
MAILING ADDRESS:	same as facility address
COUNTY:	Independence
CONTACT POSITION:	Jim Longenbach
TELEPHONE NUMBER:	(870) 793-2301
REVIEWING ENGINEER:	Paula Parker
UTM North South (Y):	Zone 15: 3961.9 km
UTM East West (X):	Zone 15: 613.4 km

SECTION II: INTRODUCTION

Summary of Permit Activity

Arkansas Lime Company owns and operates a limestone quarry and lime manufacturing plant near Batesville, in Independence County, Arkansas. The following changes are occurring in this revision.

- Reduce the frequency of testing for PM_{10}, CO, and NO_x, at the rotary kiln sources, SN-11Q, SN-24Q, and SN-30Q from annual testing to once every five years.

  The facility has tested these sources annually and has consistently shown compliance with permitted emission limits.

- Increase the tons of limestone products (including but not limited to Ag-Lime) per consecutive 12 month period at Ag-Lime Loadout to Truck, SN-22Q, from 100,000 to 200,000 tons per year.

  Estimated emissions from the source itself at the higher loading rate are less than 0.1 lb/hr and 0.1 tpy. Since the source is already permitted for those emission rates, there is no change to permitted emissions. The hourly throughput of 40 tons is not changing, only the annual throughput limit will be increasing to 200,000 tons.

- Clarify particulate testing for the rotary kiln sources, SN-11Q, SN-24Q, and SN-30Q.

  The facility has requested clarification of particulate testing requirements. The previous permit revision added Method 202 testing but cited such testing requirements inaccurately as either NSPS, MACT, or BACT. The permit has been modified to require periodic (5-yr) Method 5 testing to show compliance with the particulate emission limits for both SN-11Q and SN-24Q and periodic compliance with MACT limits for all three kilns, and BACT compliance at SN-24Q and SN-30Q. Method 202 testing has been removed from the permit for all kiln sources.

- Clarify language for operation of water sprays.

  The language in several conditions is misleading on the location of water spray controls. The only spray controls are located at SN-01 (primary crusher), SN-02 (secondary crusher), and SN-10Q (kiln feed screen). The language for SN-09, SN-4Q, SN-7Q, SN-22Q, and SN-1P have been amended to state that fugitive emissions from these sources are to be reduced by using water sprays upstream in the process.

- Change the Coal/Coke Rail Dump, SN-19Q, to the Coal/Coke Receiving Area to account for truck transfer unloading.

In addition to rail unloading, truck unloading of coal or coke also takes place in the area. Emission factors for truck unloading are more conservative than conveyor transfer, therefore, there are no permitted emission changes.

- Modify the emission rates at the Coal/Coke Storage Pile (SN-20) to account for a larger pile.

  The permitted emissions for this source remain unchanged, though actual emissions have increased.

- Clarify opacity language to require action to be taken only if visible emissions exceed the opacity limits.

  Several opacity conditions required action to be taken if any visible emissions were observed. This has been changed to state that if visible emissions in excess of permitted limits are observed then corrective action is required.

- Add Dribble Chutes storage pile to the sources at SN-04Q.
- Add previously Insignificant Activities, The Emergency Lime Stockpile, the LKD Stockpile, and the Hydrate Rejects Stockpile, to the sources at SN-04Q.

  Several sources - The Emergency Lime Stockpile, the LKD Stockpile, and the Hydrate Rejects Stockpile - were previously considered insignificant sources and are now permitted under SN-04Q. Emission increases at this source are 7.81 tpy PM and 3.9 tpy PM_{10}.

- Remove SN-15P and SN-16P, Rice Lime Screen & Crusher and Lime Storage Tank Loadouts, from the list of permitted sources.

  These sources and their associated Specific Conditions have been removed from the permit. Emission decreases due to their removal are 2.0 tpy particulates.

- Add several Insignificant Activities.

  The facility had requested several insignificant activities, which resulted in a restructuring of A-13 activities because of emission limitations for all such sources claimed as such. The following are now claimed as A-13 activities: Lime Cooler Rejects Discharge, Dribble Chute Discharge, Railcar Cleanout, Blast Hole Drilling, Quarry Blasting, Portable Conveyor, and Big Bag Filling. The facility also added a 8,000 gallon Diesel Storage Tank (A-3), a 1,000 gallon Diesel Storage Tank (A-3), and a 200 gallon Diesel Storage Tank (A-2). The facility requested to permit an emergency, 350 HP, diesel-fired generator as an A-13. The source does not operate over 500 hours per year. Also added as an A-13 is a 1,000 gallon gasoline storage tank.

- SN-44P, Hydrate Rejects Discharge, and SN-42Q, Open Top Truck Lime Loading, have been added as a permitted source. These sources were previously classified as insignificant.

  Emissions for SN-44P are 0.6 lb/hr and 2.2 tpy particulate. Emissions for SN-42Q are 37.5 lb/hr and 1.0 tpy particulate.

Process Description

Quarry

Arkansas Lime extracts high-grade limestone from its quarry located approximately 6.5 miles west-northwest of Batesville. Commercial bulk and bag explosives are used to blast limestone away from the quarry face. Front-end loaders transfer the rock into quarry trucks, which carry the limestone to the quarry dump hopper. The larger limestone rocks that cannot pass through the Grizzly are fed to the Primary Crusher (SN-01Q). The smaller rocks pass through the Grizzly and drop onto a conveyor belt. This conveyor catches the crushed rocks and drops the limestone onto either the Fine-Grained or Coarse-Grained Surge Pile (SN-04Q).

The reclaim tunnels under the Surge Piles feed limestone to the Triple-Deck (or Primary) Screen (SN-03Q). Rocks larger than that suitable for kiln feed (typically larger than 2 1/4" in diameter) are routed to a Secondary Crusher (SN-02Q). The crusher discharge is recycled back into the screen feed. Rocks suitable for kiln feed (typically 5/8" to 2 1/4" in diameter) are diverted to the Rotary Kiln Feed Surge Pile(s). Rocks smaller than that suitable for kiln feed are sent to the Pulverized Limestone (PLS)/Ag-Lime screen (SN-09Q).

The limestone pebbles from the Triple-Deck Screen too small for kiln feed are discharged to the Pulverized Limestone (PLS)/Ag-Lime Screen. The pebbles discharged from the PLS/Ag-Lime Screen are combined with the fines rejected from the Kiln Feed Screen (SN-10Q) and are dropped onto the Roller Mill Feed Loadout Surge Pile. The fines from the PLS/Ag-Lime Screen are dropped onto the Ag-Lime Storage Pile. The PLS feed and/or Ag-Lime can either be gathered by a reclaim tunnel and loaded into railcars (SN-05Q) for sale or for transport to the PLS/Lime Plant or can be loaded into trucks for sale via a front-end loader. Screens on the Ag-Lime screen may be changed to produce stone for sale. Screened stone will be stockpiled next to the Ag-Lime pile for sale by truck and will be loaded by front end loader.

Lime Kilns

One or two of five vibrating feeders reclaim the stone from the Kiln Feed Surge Pile and feed it to belt conveyors (SN-07Q). The belt conveyors transport the stone to the Kiln Feed Screen where any "fines" are removed and routed to the PLS Surge Pile. The limestone pebbles are conveyed to the Preheater Surge Bin (SN-07Q, SN-27Q, and SN-35Q) of one of the three Rotary Lime Kilns (SN-11Q, SN-24Q, and SN-30Q). No fugitive emissions escape from the bin since it operates under a slight vacuum.

The limestone flows through vertical stone chutes, which are completely full of limestone, from the bottom of the stone bin to the Limestone Preheater where the limestone begins the calcination process. Hot combustion kiln exhaust gases are brought into contact with the limestone in the Preheater. Heat is used to release carbon dioxide from the limestone via the following reaction:

$$CaCO_3\ (s) + Heat \rightarrow CaO\ (s) + CO_2\ (g)$$

The residence time needed depends upon the size of the limestone feed because the centers of the limestone rocks must reach temperatures sufficient for the reaction to take place.

The hot kiln exhaust gases are drawn through each preheater to a kiln dust collector, where particulate is separated from the kiln exhaust gases before the gases are released through a stack. Each kiln is designed with its own dust collector and exhaust stack. The collected dust is conveyed to the Kiln Dust Bin (SN-12aQ) where it is loaded into trucks (SN-bQ) for sales or disposal.

Limestone is transported into the Rotary Kiln via transfer chutes by the action of hydraulic rams in the bottom of the preheater. In the Rotary Kiln, the limestone flows countercurrent to the hot combustion gases. The combustion gases are generated through the firing of a combination of coal and coke. Alternately, pipeline-quality natural gas is fired in the kilns during startup and to produce low-sulfur lime. Gas firing results in higher fuel consumption and cost. Therefore, gas firing will primarily be used to meet the demand for low-sulfur product. In either process, the combustion occurs within the Rotary Kiln. The lime exits the Kiln through a Lime Cooler (SN-13Q, SN-25Q, and SN-32Q).

Lime is transferred from the Lime Cooler (one for each kiln) via covered conveyors and bucket elevators to the Kiln Run Silos (SN-14Q) and eventually to the Storage and Loadout Area. During startup or upset conditions, lime is diverted to the Fringe Bin, where it is loaded onto trucks and transported to the lime plant as hydrate feed, sold as-is, or stockpiled in the quarry for future sales. Under normal conditions, lime is temporarily stored in the Kiln Run Silos. The two Kiln Run Silos and one Fringe Bin are shared by all kilns. From the Kiln Run Silos, the lime is conveyed, screened, and crushed (if necessary) to meet product size specifications. The silos can load lime, also called quicklime, through "dustless" spouts to either trucks or railcars for shipment. Potential emissions from the screen, crusher, and silos are controlled by the Lime Screen/Storage Dust Collectors (SN-15Q, SN-16Q, SN-17Q, SN-18Q, SN-36Q, and SN-37Q). Potential emissions from the loadout operations are controlled by "dustless" loadout spouts (SN-38Q and SN-39Q).

Coal and Coke Handling System

The primary heat source for the Rotary Lime Kilns is coal, petroleum coke, and/or natural gas combustion. The combination of coal, coke, and/or natural gas firing are adjusted daily based on the relative prices of each fuel, fuel availability, fuel sulfur content versus sulfur permit limits, and process needs (i.e., product requirements).

Coal and coke are unloaded from railcar (SN-19Q) and transported to the respective storage pile (SN-20a/bQ) either via a conveyor system or by a backhoe and dump truck. The piles are partially covered with a roof. Front-end loaders withdraw coal or coke from the respective pile and dump the fuel into the appropriate coal or coke feed hopper (SN-21Q).

Weigh feeders and belt conveyors (SN-28Q) mix the coal and coke and transfer the mixture to one of three Fuel Bins (SN-26Q and SN-33Q). Each Fuel Bin holds one day's fuel mix and will feed the Bowl Mill for each kiln directly. The coal/coke mixture is ground to a fine powder in the Bowl Mill and is then blown directly into each Rotary Kiln.

Lime Processing at the Lime Plant

Quicklime is loaded into railcars for sales at the Quarry. Some of these railcars are diverted for use at the PLS/Lime plant. Quicklime is offloaded at the PLS/Lime Plant via a lime unloading system (SN-01P) and conveyed to the Lime Crusher and Screen (SN-15P) then to storage silos as hydrate feed or rice lime. The crusher is used to make hydrate feed from reject lime from the kiln. Rice Lime will be stored in an existing bin and will be loaded out by truck (SN-16P). SN-15P and SN-16P no longer operate at this facility.

Lime from the Quicklime Storage Silo is also sent via screw conveyors to two existing storage bins which feed the Hydrate System. Quicklime is reacted with water to form hydrated lime, which is a fine powder. Separators (SN-12P) and cyclones are used to remove coarse fractions. The hydrated lime is either sent to Bagging Operations (SN-14P) where it is packaged for sales or the Hydrate Storage Bin (SN-29P). From the Hydrate Storage Bin, the hydrate is loaded into trucks for shipment to customers (SN-13P).

Pulverized Limestone Plant (PLS)

Small limestone pebbles are transferred from the Quarry to the PLS/Lime plant via railcars. The limestone is dumped into the existing Dump Hopper (SN-35P) at the PLS/Lime Plant and conveyed to the Roller Mill Surge Bin. Alternatively, the limestone can be off loaded onto an emergency stockpile. The Surge Bin feeds the two Stone and Roller Mills (SN-18P and SN-19P) via screw conveyors. The two mills (#1 and #2) operate in parallel in the same manner.

Each mill is fed via an automatically controlled screw conveyor. In unusual circumstances, the feed rate can be controlled manually. The motor setting can be adjusted depending on the size and the moisture content of the limestone feed and the product requirements.

Fresh air is heated in a natural gas-fired heater before being added to the conveying air prior to entering the mill to dry the incoming limestone and facilitate the fine grinding operation. The makeup inlet operates under a slight vacuum. A portion of the air along with the moisture is removed through a vent fan. The amount of moisture removed from the system is controlled by the temperature balance between the makeup air temperature and the recycle air temperature. The gases removed from the system go to a dust collector.

Products from each mill are pneumatically transported through an exhaust cyclone. The products collected from the exhaust cyclone flow through a motorized dump valve, a flop gate, and a screw conveyor to the mechanical air separator. The coarse PLS (14 and 6 mesh) drops into a screw conveyor which sends the material to the PLS screen (SN-20P). The 200 mesh product from the separators is conveyed by the fines screw conveyor, which also receives 200 mesh material from the dust collector via a rotary airlock feeder.

The discharge from the fines screw conveyor can be routed in one of two locations: the 270 product storage tank or to the PLS Bagging Operations (SN-24P).

The mechanical air separator can be bypassed by switching the flop gate. This mode of operation is used when demand is for fine products. In this mode, fine material leaves the mill and is separated from the air stream in a cyclone. As in the normal mode, fine material is transported to storage.

The PLS Screen separates the limestone into two categories: medium coarse PLS and large coarse PLS. The medium coarse PLS is sent to the 140 Product Bins. From there, it can be sent to PLS Bagging or to the PLS Loadout Area. The large coarse PLS is either recycled to the Roller Mill's feed stream or sent to the 106 Storage Bin.

Each roller mill unit is enclosed. A dust collector serves each mill and controls the potential emissions from all the individual components including the conveyors, crushers, and screens.

The PLS Loadout operation consist of one partitioned bin (SN-30P) equipped with "dustless" loading spouts (SN-31P) for the limestone trucks. A truck scale is located under the bin to streamline the loading process. The products (i.e., 106, 140, 270, and 280) are stored in the four sections of the partitioned bin. Certain modified PLS products are loaded out to truck or rail via a dustless loading spout vented to a dust collector (SN-36P).

Railcars are loaded through dustless loading spouts (SN-33P and SN-34P) installed in dropouts from the conveyors to the truck loadout bin. These loadout spouts are for each of the two products shipped via rail (140 and 270).

The roads at the facility have been divided into the Unpaved Quarry Haul Roads (SN-06Q), the Paved Quarry/Kiln Area Roads (SN-29Q), and the Paved PLS/Lime Plant Roads (SN-26P)

Regulations

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective January 25, 2009
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective January 25, 2009
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective January 25, 2009
40 CFR 60 Subpart Y, New Source Performance Standards for Coal Preparation Plants
40 CFR 60 Subpart HH, New Source Performance Standards for Lime Manufacturing Plants
40 CFR 60 Subpart OOO, New Source Performance Standards for Non Metallic Mineral Processing Plants
40 CFR 63 Subpart AAAAA, National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants
40 CFR 64, Compliance Assurance Monitoring
40 CFR 52, Prevention of Significant Deterioration

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

Arkansas Lime Company
Permit #: 0045-AOP-R4
AFIN: 32-00014

Emission Summary

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	96.65	232.48
		PM_{10}	57.1	178.3
		SO_2	134.7	425.1
		VOC	10.5	43
		CO	258.7	1,030.3
		NO_X	301.6	1,202.1
		HCl	24.00	105.12
01Q	Primary Crusher	PM PM_{10}	0.43 0.3	1.05 0.5
02Q	Secondary Crusher	PM PM_{10}	0.31 0.2	1.02 0.5
03Q	Triple Deck Screen	PM PM_{10}	1.06 0.5	2.97 1.5
04Q	Storage Piles	PM PM_{10}	3.6 1.8	11.1 5.6
05Q	Railcar Loadout	PM PM_{10}	0.10 0.1	0.10 0.1
06Q	Unpaved Quarry Haul Roads	PM PM_{10}	39.10 11.1	40.60 11.6
07Q	Conveyor Transfer Points	PM PM_{10}	8.20 3.9	19.80 9.4
08Q	Top Bench Screen	Source Never Installed.		
09Q	PLS/Ag-Lime Screen	PM PM_{10}	0.53 0.3	0.73 0.4
10Q	Kiln Feed Screen	PM PM_{10}	0.30 0.2	1.21 0.6
11Q	Rotary Kiln 1	PM PM_{10} SO_2 VOC CO NO_X HCl	6.90 6.9 44.8 3.4 85.9 100.2 8.00	27.40 27.4 141.6 14.2 342.2 399.3 35.04

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
12aQ	Kiln-Dust Bin Vent Dust Collector	PM PM_{10}	0.30 0.3	0.20 0.2
12bQ	Kiln-Dust Loadout Dust Collector	PM PM_{10}	0.20 0.2	0.20 0.2
13Q	#1 Lime Discharge (Nuisance Dust Collector)	PM PM_{10}	0.30 0.3	1.20 1.2
14Q	Lime Product Silo Dust Collector	PM PM_{10}	0.20 0.2	0.90 0.9
15Q	Lime Screen/Storage Dust Collector	PM PM_{10}	1.80 1.8	7.90 7.9
16Q	Lime Loadout Dust Collector	PM PM_{10}	0.20 0.2	0.80 0.8
17Q	Off-Spec Lime Loadout/Bin Vent	PM PM_{10}	0.20 0.2	0.50 0.5
18Q	Lime Loadout to Railcars	PM PM_{10}	0.20 0.2	0.80 0.8
19Q	Coal/Coke Receiving Area	PM PM_{10}	0.54 0.3	0.38 0.2
20a/bQ	Coal/Coke Storage Piles	PM PM_{10}	0.5 0.3	1.4 0.7
21Q	Coal/Coke Transfer Points	PM PM_{10}	0.10 0.1	0.30 0.2
22Q	Ag-Lime Loadout to Truck	PM PM_{10}	0.10 0.1	0.10 0.1
23Q	New Ag-Lime Plant Truck Top-Off System Fugitives (Was SN-28P; Moved to Quarry in 2000)	Source Removed.		
24Q	Rotary Kiln 2	PM PM_{10} SO_2 VOC CO NO_X HCl	5.80 5.8 44.8 3.4 85.9 100.2 8.00	22.90 22.9 141.6 14.2 342.2 399.3 35.04
25Q	#2 Lime Discharge (Nuisance Dust Collector)	PM PM_{10}	0.30 0.3	1.20 1.2
26Q	#1 and #2 Coal/Coke Bin Vents	PM PM_{10}	0.30 0.3	1.20 1.2

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
27Q	Kiln Feed Belt into #2 Kiln Surge Bin	PM PM_{10}	1.10 0.1	0.10 0.1
28Q	#1 and #2 Coal/Coke Transfer Points	PM PM_{10}	0.10 0.1	0.10 0.1
29Q	Paved Quarry/Kiln Area Roads	PM PM_{10}	0.58 0.2	0.43 0.1
30Q	Rotary Lime Kiln 3	PM PM_{10} SO_2 VOC CO NO_X HCl	5.80 5.8 44.8 3.4 85.9 100.2 8.00	22.90 22.9 141.6 14.2 342.2 399.3 35.04
31Q	Transfer Points to Extended RKFS Pile	PM PM_{10}	0.90 0.5	1.60 0.8
32Q	#3 Lime Discharge (Nuisance Dust Collector)	PM PM_{10}	0.30 0.3	1.20 1.2
33Q	#3 Coal/Coke Bin Vent	PM PM_{10}	0.20 0.2	0.60 0.6
34Q	#3 Coal/Coke Transfer Point	PM PM_{10}	0.10 0.1	0.10 0.1
35Q	Kiln Feed Belt into #3 Kiln Surge Bin	PM PM_{10}	0.10 0.1	0.10 0.1
36Q	Lime Storage Silo Dust Collector	PM PM_{10}	0.90 0.9	4.00 4.0
37Q	Lime Storage Silo Dust Collector	PM PM_{10}	0.90 0.9	4.00 4.0
38Q	Lime Loadout Dust Collector	PM PM_{10}	0.20 0.2	0.80 0.8
39Q	Lime Loadout Dust Collector	PM PM_{10}	0.20 0.2	0.80 0.8
40Q	LKD Truck Loading	PM PM_{10}	0.40 0.2	0.60 0.3
41Q	LKD Truck Dumping	PM PM_{10}	0.40 0.2	0.60 0.3
42Q	Open Top Truck Lime Loading	PM PM_{10}	37.50 37.5	1.00 1.0
01P	Limestone Drop Points	PM PM_{10}	0.53 0.3	1.35 0.7

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
02P	Stockpile Fugitives	Source Removed.		
03P	Vertical Kiln #1	Source Removed.		
04P	Vertical Kiln #2	Source Removed.		
05P	Vertical Kiln #3	Source Removed.		
06P	Vertical Kiln #4	Source Removed.		
07P	Vertical Kiln #5	Source Removed.		
08P	Vertical Kiln #6	Source Removed.		
09P	Lime Crusher and Conveyor Points	Source Removed.		
10P	Hydrator #1	Source Removed.		
11P	Hydrator #2	Source Removed.		
12P	Hydrate Separator System Dust Collector	PM PM_{10} SO_2 VOC CO NO_X	1.90 1.9 0.1 0.1 0.4 0.4	8.20 8.2 0.1 0.2 1.5 1.8
13P	Hydrate Storage Tank Loadout	PM PM_{10}	0.30 0.3	1.00 1.0
14P	Hydrated Lime Bagging Operations	PM PM_{10}	0.80 0.8	3.30 3.3
15P	Rice Lime Screen & Crusher	Source Removed.		
16P	Lime Storage Tank Loadouts	Source Removed.		
17P	PLS Screening Operations	Source Removed.		
18P	Stone and Roller Mill Plant #1	PM PM_{10} SO_2 VOC CO NO_X	2.70 2.7 0.1 0.1 0.3 0.3	11.50 11.5 0.1 0.1 1.1 1.2

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
19P	Stone and Roller Mill Plant #2	PM PM_{10} SO_2 VOC CO NO_X	1.80 1.8 0.1 0.1 0.3 0.3	7.80 7.8 0.1 0.1 1.1 1.2
20P	PLS Screening Operations	PM PM_{10}	0.67 0.4	2.94 1.4
21P	Loadout of 270/280 Product	Source Removed		
22P	Loadout of 140 Product Silo	Source Removed.		
23P	Loadout of 106 Product Silo	Source Removed.		
24P	PLS Bagging Operations	PM PM_{10}	0.40 0.4	1.70 1.7
25aP	Portable Ag-Lime Plant Dust Collector	Source Removed.		
25bP	Portable Ag-Lime Plant Fugitives	Source Removed.		
26P	Paved PLS/Lime Plant Roads	PM PM_{10}	1.60 0.4	1.20 0.3
27P	New Ag-Lime Plant Fugitives	Source Removed.		
28P	Ag-Lime Plant Truck Top-Off System Fugitives	Source Removed.		
29P	Hydrate Storage Dust Collector	PM PM_{10}	0.20 0.2	0.80 0.8
30P	Consolidated PLS Loadout Bin Vent	PM PM_{10}	0.40 0.4	1.50 1.5
31P	New Consolidated PLS Truck Loadout	This source vents back into the loadout bin		
33P	Consolidated PLS 140 Railcar Drop-Out	PM PM_{10}	0.20 0.2	0.80 0.8
34P	Consolidated PLS 270 Railcar Drop-Out	PM PM_{10}	0.20 0.2	0.80 0.8
35P	Quicklime Fines Rail Unloading Pit	PM PM_{10}	0.40 0.4	1.70 1.7

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
36P	Modified PLS Products Loading Station	PM PM_{10}	0.20 0.2	0.80 0.8
41P	Portable Undersize Stone Crusher	This source was never installed		
42P	Undersize Stone Conveyors and Drop Points	Source Removed.		
43P	Kiln Feed/Undersize Stone Screen	Source Removed.		
44P	Hydrate Rejects Discharge	PM PM_{10}	0.60 0.6	2.20 2.2

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

**Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

SECTION III: PERMIT HISTORY

Operations at what is now known as Arkansas Lime Company began in 1925.

Permit 45-A was issued to Rangeaire Corporation, Batesville, White Lime Division, on August 18, 1970. This permit allowed for the installation of one Sly 12-A Dynaclone and associated equipment.

Permit 45-AR-1 was issued on February 1, 1971, to allow for the installation of two Western Precipitation Turbalaire Scrubbers and associated equipment.

Permit 45-AR-2 was issued on July 24, 1979, to allow for the installation of several baghouses. Three baghouses were installed to control emissions from crushing, bagging, screening, and storage operations. A fourth baghouse was installed as a place for trucks to discard dust at before receiving shipments.

Permit 45-AR-3 was issued to Arkansas Lime Company, formerly known as Rangeaire Corporation, Batesville, White Lime Division, on April 22, 1987. This permit allowed for the installation of a new stone and rolling mill. A new baghouse on the old stone and rolling mill was also permitted.

Permit 45-AR-4 was issued on July 25, 1990, to allow for modifications to the hydrated lime process. It was stated in this permit that the emissions were not increasing from the rates set forth in 45-AR-3.

Permit 45-AR-5 was issued to Arkansas Lime Company -- Lime Plant on July 30, 1996. With this permit, the quarry and the lime plant began to operate under separate permits. The quarry is now operating under permit #1698-A. Permit 45-AR-5, which quantified annual emissions for the first time for this facility, set maximum emission rates at 405.6 tons per year of particulate matter, 0.8 tons per year of sulfur dioxide, 1.4 tons per year of volatile organic compounds (VOC), 1315.0 tons per year of carbon monoxide, and 43.0 tons per year of oxides of nitrogen.

Permit 1698-A was issued to Arkansas Lime Company for its quarry operations on July 11, 1996.

Permit 45-AOP-R0 was issued to Arkansas Lime Company -- Lime Plant on February 17, 1998. This was the first operating permit issued to Arkansas Lime Company under Regulation 26. Permitted emissions of volatile organic compounds increased to 2.6 tpy while the permitted emissions of particulate matter decreased to 374.3 tpy with this permit. No physical changes or changes in the method of operation were allowed under this permit.

Permit 45-AOP-R1 was issued to Arkansas Lime Company on September 14, 1999, and was administratively amended on October 21, 1999. (The administrative amendment was done to correct the effective dates of the permit on the title page of the permit.) This permit allowed for the installation of a new 625 ton per day rotary kiln at the quarry which replaced the six vertical kilns located at the lime plant. Several new sources were installed as a result of the new kiln and others were removed and/or replaced at both the quarry and the lime plant. The modifications caused significant net emissions increases in sulfur dioxide (226.0 tons per year) and oxides of nitrogen (395.0 tons per year). As a result, Arkansas Lime submitted a PSD permit application addressing the modifications taking place, including a BACT analysis and an ambient air impact analysis. The PSD section of this permit is included in Appendix F.

Permit 0045-AOP-2 was issued to Arkansas Lime Company on May 18, 2000. This permit was to install a second 625 tpd rotary lime kiln at its quarry near Batesville. Due to the installation of the new kiln, Arkansas Lime also proposed to install a new lime product cooler, a new lime product silo dust collector, a new limestone conveyor belt, and a new conveyor belt at the coal/coke preparation plant. The net emission increases of total suspended particulate, particulate matter with a diameter less then 10 microns, sulfur dioxide, and oxides of nitrogen exceeded the PSD Significant Increases. The PSD Significant Increase Level for carbon monoxide was not exceeded although there is a net emission increase of this pollutant. Permitted emissions of VOCs also increased. The PSD section of this permit is included in Appendix G.

Permit 0045-AOP-2 was Administratively Amended on May 8, 2001. This amendment removed references to the Top Bench Screen (SN-08Q), Feed Hopper, Conveyor, and Top-Off Bin (SN-23Q), and the Lime Crusher and Conveyor Point (SN-09P).

Permit 0045-AOP-R3 was issued on August 30, 2005. This permit modification was both a renewal and a PSD modification. The following changes occurred in this revision: the construction and operation of a third Preheater Rotary Lime Kiln (Kiln 3) along with associated new sources, Limestone Transfer Points (31Q), #3 Lime Product Cooler (32Q), and #3 Coal/Coke Bin Vent (33Q), #3 Coal/Coke Transfer Points (34Q), Kiln Feed Belt to #3 Kiln Limestone Surge Bin (35Q), Lime Storage Silo Dust Collector (36Q), Lime Storage Silo Dust Collector (37Q),Lime Loadout Dust Collector (38Q), Lime Loadout Dust Collector (39Q); the addition of Compliance Assurance Monitoring (CAM) and Lime MACT requirements; established new $\%O_2$ ranges used to demonstrate compliance with the NO_X and CO limits for each kiln; updated the Insignificant Activities List; changed the averaging period for production limits; changed the monitoring requirements for NO_X emissions; installed a new Modified PLS Products Loading Station (SN-36P); quantified emissions of HCl from the kilns; increased SO_2 dry scrubbing control efficiency in the kilns from 92% to 95%.

SECTION IV: SPECIFIC CONDITIONS

SN-01Q and SN-02Q
Primary and Secondary Crusher

Source Description

The primary crusher has been designated as source SN-01Q while the secondary crusher has been designated as source SN-02Q. Both of these crushers were replaced in 2000.

The crushers are both subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. Water sprays are the only type of control equipment associated with these sources.

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 Specific Conditions #5 and #7 and equipment limitations. [§19.501 et seq. of Regulation #19, effective January 25, 2009 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
01Q	PM_{10}	0.3	0.5
02Q	PM_{10}	0.2	0.5

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #5 and #7 and equipment limitations. [§18.801 of Regulation #18, effective January 25, 2009, 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
01Q	PM	0.43	1.05
02Q	PM	0.31	1.02

3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
01Q	15%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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
02Q	15%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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

4. The permittee shall conduct weekly observations of the opacity from sources SN-01Q and SN-02Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

5. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
01Q	1,700,000
02Q	1,640,000

6. The permittee shall maintain monthly records to demonstrate compliance with Specific Condition #5. The permittee shall update these records by the fifteenth day of the month following the month. The permittee shall keep these records onsite, and make them available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

7. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-01Q and SN-02Q. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions. [§18.1104 of Regulation #18, §19.303 of Regulation #19, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

8. Sources SN-01Q and SN-02Q are subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO can be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the requirements found in Specific Condition #3 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-03Q, SN-09Q, & SN-10Q
Quarry Limestone Screens

Source Description

The triple deck screen (SN-03Q) replaced the old quarry screen in 2000. The PLS/AG-Lime Screen (SN-09Q) and the Kiln Feed Screen (SN-10Q) were installed in 2000.

These sources are subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. Water sprays are the only control equipment associated with these screens.

Specific Conditions

9. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #13 and #15 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
03Q	PM_{10}	0.5	1.5
09Q	PM_{10}	0.3	0.4
10Q	PM_{10}	0.2	0.6

10. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #13 and #15 and equipment limitations. [§18.801 of Regulation #18 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
03Q	PM	1.06	2.97
09Q	PM	0.53	0.73
10Q	PM	0.30	1.21

11. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
03Q	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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
09Q	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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
10Q	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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

12. The permittee shall conduct weekly observations of the opacity from sources SN-03Q, SN-09Q, and SN-10Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

13. The permittee shall not exceed the following process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and/or A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
03Q	3,362,000
09Q	822,000

Source	Tons of Limestone per consecutive 12 month period
10Q	1,368,750

14. The permittee shall maintain records of the amounts of limestone processed at sources SN-03Q, SN-09Q, and SN-10Q in order to demonstrate compliance with Specific Condition #13 which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

15. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-09Q and at SN-10Q. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and/or A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

16. Sources SN-03Q, SN-09Q, and SN-10Q are subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO can be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #11 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-04Q
Storage Piles

Source Description

The Limestone Piles have been designated as source SN-04Q. Source SN-04Q was originally installed prior to 1960. New piles were made in 2000 and 2005.

Several sources - The Emergency Lime Stockpile, the LKD Stockpile, and the Hydrate Rejects Stockpile - were previously considered insignificant sources and are now permitted under SN-04Q.

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 Specific Condition #21 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	1.8	5.6

18. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #21 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	3.6	11.1

19. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
04Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

20. The permittee shall conduct daily observations of the opacity from source SN-04Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

21. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-04Q. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-05Q
Railcar Loadout

Source Description

Limestone from the roller mill feed surge stockpile is loaded out via railcar and transported to the lime plant. Water sprays are the only controls associated with this source. This source was replaced in 2000.

Specific Conditions

22. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #26 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.1	0.1

23. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #26 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.10

24. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
05Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

25. The permittee shall conduct daily observations of the opacity from source SN-05Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

26. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Number of Railcars Loaded per consecutive 12 month period
05Q	19,700

27. The permittee shall maintain records of the number of railcars loaded out at SN-05Q in order to demonstrate compliance with Specific Condition #26 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A.§8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-06Q and SN-29Q
Quarry Haul Roads

Source Description

A new loadout road was added to the existing roads in 2000. The only controls associated with the quarry haul roads are water sprays. The unpaved haul roads have been designated as source SN-06Q and consist of the roads leading down to the quarry bottom. The paved haul roads have been designated as source SN-29Q and will consist of the roads around the lime kilns and storage areas.

Specific Conditions

28. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #30 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
06Q	PM_{10}	11.1	11.6
29Q	PM_{10}	0.2	0.1

29. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #30 and equipment limitations. [§18.801 of Regulation #18 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
06Q	PM	39.10	40.60
29Q	PM	0.58	0.43

30. The permittee shall water the haul roads as necessary in order to reduce fugitive emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-07Q
Conveyor Transfer Points

Source Description

The Conveyor Transfer Points have been designated as source SN-07Q. Source SN-07Q was originally installed prior to 1970, but was modified in 2000.

Source SN-07Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants and 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

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 Specific Conditions #35 and #37 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	3.9	9.4

32. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #35 and #37 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	8.20	19.80

33. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
07Q	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(b), 40 CFR §63.7080 Table 1, Item 7, 40 CFR §63.7080 Table 3, Item 4, 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

34. The permittee shall conduct weekly observations of the opacity from source SN-07Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

35. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
07Q	23,448,000

36. The permittee shall maintain records of the amount of limestone processed at SN-07Q in order to demonstrate compliance with Specific Condition #35 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 of Regulation 19 and 40 CFR Part 52, Subpart E, or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

37. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-07Q. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive

emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

38. Source SN-07Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants upon replacement. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Conditions #33 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

39. Transfer Point D06 (Kiln Feed Belt into Stone Bin) of Source SN-07Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #33 and #40 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

40. Source SN-07Q has been defined as an existing processed stone handling (PSH) operation because construction or reconstruction began before December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(b)]

SN-11Q
Rotary Lime Kiln 1

Source Description

Construction on this rotary lime kiln began in late 1999. The fuels for this kiln are a blend of coal and coke with natural gas. The permittee may use 100% natural gas at times when it is necessary to produce a low sulfur lime product. Particulate matter emissions are controlled through the use of a baghouse. Sulfur dioxide emissions are controlled through dry scrubbing which occurs naturally in the lime kiln and at the filter cake on the baghouse. No other control equipment is associated with this lime kiln.

This source is subject to 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants, 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, and PSD.

The following table lists the BACT Limits and Determinations for this source:

Pollutant	BACT Limit	BACT Determination
SO_2	4% by Weight Sulfur in Fuel on a Daily Basis and 3% by Weight Sulfur in Fuel on a 30-Day Rolling Average	Natural Dry Scrubbing In Kiln and Baghouse
NO_X	3.5 lb NO_X per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation

Specific Conditions

41. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #46, #48, #52, #55, #63, and #77 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	6.9	27.4
VOC	3.4	14.2
CO	85.9	342.2

42. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #46, #48, #52, #72, and #74 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
SO_2	44.8	141.6
NO_X	100.2	399.3

43. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #46, #48, #52, #55, and #63 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	6.90	27.40
HCl	8.00	35.04

44. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
11Q	15%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.342(a)(2), 40 CFR §63.7080 Table 2, Item 1, 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

45. The owner or operator of a facility that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from the rotary lime kiln. The span of this system shall be set at 40% opacity. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(a), 40 CFR §63.7113(g), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

46. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Coal and/or Coke per consecutive 12 month period
11Q	47,254

47. The permittee shall maintain records of the amount of coal and coke fired in the lime kiln in order to demonstrate compliance with Specific Condition #46 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

48. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Lime per day
11Q	687.0

49. The permittee shall maintain daily records of the lime produced in order to demonstrate compliance with Specific Condition #48 and which may be used by the Department for enforcement purposes. These records shall be updated daily, kept on site, and made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

50. The permittee shall obtain a manufacturer's certification of the ash mineral analysis of the coal in order to demonstrate that any possible emissions of Hazardous Air Pollutants (HAPs) are below the de minimis levels. A new certification shall be obtained each time that coal is obtained from a different mine. This certification shall be kept on site and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

51. All required tests shall be conducted while firing coal and/or coke. All required tests shall also be conducted in accordance with Plantwide Condition #3. [§19.702 and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

52. The permittee shall use only coal, coke, or pipeline quality natural gas to fire the rotary lime kiln. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

53. The permittee shall test SN-11Q every five years for particulate matter using Method 5. EPA Reference Method 5. Results shall be used in order to demonstrate compliance with the particulate emission limits of Specific Condition #41. All tests shall take place in accordance with Plantwide Condition #3. The most recent test date for this source is April 2008.

NSPS Subpart HH

54. Source SN-11Q is subject to the provisions of 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants. A copy of Subpart HH has been included in Appendix B of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #55 through #59. [40 CFR §60.340(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

55. 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 any rotary lime kiln any gases which contain particulate matter in excess of 0.30 kilogram per megagram (0.60 lb/ton) of stone feed. [§19.304 and §19.501 et seq. of Regulation #19, 40 CFR §60.342(a)(1), and 40 CFR Part 52, Subpart E]

56. The owner or operator shall determine compliance with the particulate matter standards in Specific Condition #55 as follows. Performance testing for SN-11Q was performed on April, 2001. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.344(b)(1) through (4), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

    a. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

    $$E = (Cs\ Qsd)/PK$$

    where:

    E = emission rate of particulate matter, kg/Mg (lb/ton) of stone feed
    Cs = concentration of particulate matter, g/dscm (g/dscf)
    Qsd = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
    P = stone feed rate, Mg/hr (ton/hr)
    K = conversion factor, 1000 g/kg (453.6g/lb)

    b. Method 5 shall be used at negative pressure fabric filters and other types of control devices and Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (Cs) and the volumetric flow rate of the effluent gas (Qsd). The sampling time and the sample volume for each run shall be at least 60 minutes and 0.9 dscm (31.8 dscf).

c. The monitoring device of §60.343(d) (Specific Condition #57) shall be used to determine the stone feed rate (P) for each run.

d. Method 9 and the procedures in §60.11 shall be used to determine opacity.

57. For the purpose of conducting a performance test under §60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of stone feed to the affected rotary lime kiln. The measuring device used must be accurate to within + or - 5 percent of the mass rate over its operating range. The permittee shall continue to maintain and operate this device after the initial performance test has been completed. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(d), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

58. For the purpose of reports required under §60.7(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the visible emissions from any lime kiln subject to paragraph (a) of this subpart is greater than 15 percent. [§19.304 of Regulation #19 and 40 CFR §60.343(e)]

59. 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). [§19.304 and §19.702 of Regulation #19, 40 CFR Part 52, Subpart E, and 40 CFR §60.344(a)]

MACT AAAAA

60. Source SN-11Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #61 through #71 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

61. Source SN-11Q has been defined as an existing lime kiln because construction or reconstruction began before December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(e)]

62. Because SN-11Q has been defined as an existing source, the permittee must comply with the limitations set forth in Specific Conditions #62 through #71 by January 5, 2007. [§19.304 of Regulation #19 and 40 CFR §63.7083(b)]

63. Particulate emissions from SN-11Q shall not exceed 0.12 lbs per ton of stone fed. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 1, Item 1]

64. The owner or operator shall determine compliance with the MACT particulate matter standards in Specific Condition #63 as follows: [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 3, Item 1 and §63.7111]

a. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$E = (Cs\ Qsd)/PK$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton) of stone feed
Cs = concentration of particulate matter, g/dscm (g/dscf)
Qsd = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
P = stone feed rate, Mg/hr (ton/hr)
K = conversion factor, 1000 g/kg (453.6g/lb)

b. Method 5 shall be used at negative pressure fabric filters and other types of control devices and Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (Cs) and the volumetric flow rate of the effluent gas (Qsd). The sampling time and the sample volume for each run shall be at least 60 minutes and 0.9 dscm (31.8 dscf).

c. The monitoring device of Specific Condition #57 shall be used to determine the stone feed rate (P) for each run.

d. The permittee shall conduct the performance test of #64a, b, and c every five years following the initial performance test.

65. The permittee shall maintain a fabric filter on SN-11Q such that the opacity requirement of 15% is not exceeded on a 6-minute block average. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 2, Item 1]

66. For each emission unit equipped with an add-on air pollution control device, the permittee must inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in Item 6 of Table 2 to this subpart and record the results of each inspection. [§19.304 of Regulation #19 and 40 CFR §63.7113(f)]

67. For each COMS used to monitor an add-on air pollution control device, the permittee must meet the following requirements: [§19.304 of Regulation #19 and 40 CFR §63.7113(g)]

1. Install the COMS at the outlet of the control device.

2. Install, maintain, calibrate, and operate the COMS as required by 40 CFR Part 63, Subpart A, General Provisions and according to Performance Specification – 1 of Appendix B to Part 60 of this chapter. Facilities that operate COMS installed on or before February 6, 2001, may continue to meet the requirements in effect at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

68. The permittee shall collect COMS data at a frequency of at least once every 15 seconds. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 5, Item 4(a)(ii)]

69. The permittee shall implement the written Operations, Maintenance, and Monitoring (OM&M) plan submitted with this permit application. Any subsequent changes to the plan must be submitted for review and approval. [§19.304 of Regulation #19 and 40 CFR §63.7100(d)]

70. Rotary Lime Kiln 1 (SN-11Q) must vent captured emissions through a closed system. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6a]

71. Rotary Lime Kiln 1 (SN-11Q) must operate each capture/collection system according to procedures in the OM&M plan. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6b]

SO_2 Conditions

72. The sulfur content of the fuel mix used to fire the kiln shall not exceed 4% by weight on a daily basis as fired in the kiln and shall not exceed 3% on a rolling 30-day average. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

73. The permittee shall obtain manufacturer's certification of the sulfur content of each shipment of the coal/coke mix or conduct tests of each shipment of fuel to determine the sulfur content and shall perform any necessary calculations in order to demonstrate compliance with Specific Condition #72 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

NO_X

74. Emissions of oxides of nitrogen shall not exceed 3.5 lbs per ton of lime produced on a 30-day rolling average. [§19.501 et seq. and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

75. The permittee shall test source SN-11Q for oxides of nitrogen using EPA Reference Method 7E. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat the test every five years. The most recent test was performed April 11, 2008. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

76. The permittee shall demonstrate compliance with the NO_X emissions limit in Specific Condition #74 for source SN-11Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

a. The permittee shall install, calibrate, maintain, and operate a continuous oxygen monitor in the exhaust end, but before the preheater, of source SN-11Q. The permittee shall operate the oxygen monitor in accordance with the QA/QC practices listed in Specific Conditions #76e through #76h.

b. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is less than or equal to 0.93%.

c. The permittee shall use this oxygen monitor to demonstrate compliance with the maximum $\%O_2$ kiln gas limit established by Specific Condition #76b. The permittee shall use the data from the continuous oxygen monitor (to predict the NO_X emission rate), along with lime production records, to demonstrate compliance with Specific Condition #74.

d. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #76b.

e. The oxygen monitor shall meet a minimum frequency of monitor operation of 95% up-time.

f. Source SN-11Q shall comply with the limit in Specific Condition #76b by meeting a minimum frequency of 95% compliance on a 30-day rolling average.

g. The permittee shall conduct calibration and zero-span checks of the O_2 monitor when the cells are replaced and every four weeks following installation per the manufacturer's recommended calibration procedures.

h. Within 14 days prior to the annual kiln performance stack tests, a kiln gas sample from the O_2 monitor shall be split and analyzed by a certified, third-party O_2 analyzer. The relative accuracy (RA) of the O_2 monitor shall be determined by

this split sample and the RA estimation method in 40 CFR 60, Appendix B, Performance Draft Specification 2. The RA of the O_2 monitor shall be no greater than 20%. Results of the RA calculation shall be included with the performance test report.

i. Monitor up-time, monitor calibration checks, the $\%O_2$ rolling 30-day average values, and any deviations from the rolling 30-day O_2 limit shall be recorded daily, kept on-site, and made available to Department personnel upon request. A report including the total monitor up-time, kiln operating time, 30-day rolling average $\%O_2$ values, and percent compliance shall be submitted to the Department in accordance with General Provision #7.

CO

77. The permittee shall test source SN-11Q for carbon monoxide using EPA Reference Method 10. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat the test every five years. The most recent test was performed April 11, 2008. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

78. The permittee shall demonstrate compliance with the CO emissions limits in Specific Condition #41 for source SN-11Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

a. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is not less than 0.60%.

b. The permittee shall use the oxygen monitor required by Specific Condition #76a to demonstrate compliance with the minimum $\%O_2$ kiln gas limit established by Specific Condition #78a. The permittee shall operate the oxygen monitor in accordance with Specific Conditions #76e through #76i.

c. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #78a.

SN-12Qa, SN-12b, & SN-13Q
Kiln-Dust Bin Vent Dust Collectors and #1 Lime Discharge (Nuisance Dust Collector)

Source Description

The lime dust collected by the baghouse on the lime kiln is sold off site. The emissions generated by the kiln-dust bin vent are controlled through fabric-filter type dust collectors which have been designated as source SN-12aQ and SN-12bQ. Also included in the emission rates for source SN-12aQ and SN-12bQ are the emissions generated by the bin loadout.

After the limestone has been calcined in the kiln, it is sent to the lime product cooler. Emissions from the lime product cooler are controlled through the use of a fabric filter which has been designated as source SN-13Q.

Source SN-13Q is subject to CAM for particulate emissions. Daily opacity observations are the method used to demonstrate compliance.

Specific Conditions

79. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #84 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
12aQ	PM_{10}	0.3	0.2
12bQ	PM_{10}	0.2	0.2
13Q	PM_{10}	0.3	1.2

80. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #84 and equipment limitations. [§18.801 of Regulation #18 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
12aQ	PM	0.30	0.20
12bQ	PM	0.20	0.20
13Q	PM	0.30	1.20

81. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
12a&bQ	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
13Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

82. The permittee shall conduct weekly observations of the opacity from source SN-12Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

83. The permittee shall conduct daily observations of the opacity from source SN-13Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

84. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Hours per consecutive 12 month period
12a&bQ	1,460

85. The permittee shall maintain records of the hours of operation of loading out from the bin associated with SN-12Q in order to demonstrate compliance with Specific Condition #84 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-14Q & SN-15Q
Lime Product Silo Dust Collector and Screen/Storage Dust Collector

Source Description

After the lime has been cooled in the product cooler, it is transferred to the lime product silo. Emissions from this silo are controlled through the use of a fabric filter type dust collector which has been designated as source SN-14Q.

Emissions generated by the lime screen and crusher are controlled through the use of a dust collector. This source has been designated as SN-15Q.

Source SN-15Q is subject to CAM for particulate emissions. Daily opacity observations are the method used to demonstrate compliance.

Specific Conditions

86. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
14Q	PM_{10}	0.2	0.9
15Q	PM_{10}	1.8	7.9

87. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 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
14Q	PM	0.20	0.90
15Q	PM	1.80	7.90

88. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
14Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
15Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

89. The permittee shall conduct weekly observations of the opacity from source SN-14Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

90. The permittee shall conduct daily observations of the opacity from source SN-15Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

SN-16Q, SN-17Q, & SN-18Q
Lime Loadout Dust Collector, Off Spec Lime Loadout/Bin Vent, and Lime Loadout to Railcars

Source Description

Source SN-16Q controls emissions generated by the truck loadout of quicklime, source SN-17Q controls emissions generated by the truck loadout of off-spec lime, and source SN-18Q controls emissions generated by the rail loadout of quicklime sales and transfer. All of these sources use fabric filter type dust collectors.

Specific Conditions

91. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #95 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
16Q	PM_{10}	0.2	0.8
17Q	PM_{10}	0.2	0.5
18Q	PM_{10}	0.2	0.8

92. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #95 and equipment limitations. [§18.801 of Regulation #18 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
16Q	PM	0.20	0.80
17Q	PM	0.20	0.50
18Q	PM	0.20	0.80

93. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
16Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
17Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
18Q	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

94. The permittee shall conduct weekly observations of the opacity from sources SN-16Q, SN-17Q, and SN-18Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

95. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Lime per consecutive 12 month period
17Q	456,250

96. The permittee shall maintain records of the lime throughput at source SN-17Q in order to demonstrate compliance with Specific Condition #95 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-19Q, SN-20Q, & SN-21Q
Coal/Coke Preparation Plant

Source Description

Source SN-19Q is the Coal/Coke Receiving Area. Source SN-20Q consists of the Coal and Coke Storage Piles. Source SN-21Q consists of the Coal/Coke Conveyor Transfer Points. No control equipment is associated with the other sources at the coal/coke preparation plant.

Compliance with these emission rates will be demonstrated through the limit on the amount of coal and coke that the permittee is allowed to fire in the rotary lime kilns. The Department recognizes that source SN-21Q will be handling some of the coal and coke more than one time. However, since the permittee will not be buying significantly more coal and coke than will be burned in the lime kilns, no additional record keeping will be required for source SN-21Q. The coal preparation plant also consists of coal processing and storage operations (as defined in 40 CFR §60.251). No emissions are expected from these sources due to their design. However, the permittee will be required to test these sources as required under 40 CFR, Part 60.

Due to the additional coal being handled, the coal/coke preparation plant will now be subject to the requirements of 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants.

Specific Conditions

97. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #101 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
19Q	PM_{10}	0.3	0.2
20a/bQ	PM_{10}	0.1	0.2
21Q	PM_{10}	0.1	0.2

98. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #101 and equipment limitations. [§18.801 of Regulation #18 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
19Q	PM	0.54	0.38
20Q	PM	0.10	0.30
21Q	PM	0.10	0.30

99. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
19Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E
20Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E
21Q	20%	§19.304 and §19.503 of Regulation #19 40 CFR §60.252(c), and 40 CFR Part 52, Subpart E

100. The permittee shall conduct daily observations of the opacity from sources SN-19Q, SN-20Q, and SN-21Q, and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

101. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Coal/Coke per consecutive 12 month period
19Q	141,759

102. The permittee shall maintain records of the coal/coke throughput at source SN-19Q in order to demonstrate compliance with Specific Condition #101 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

103. Source SN-21Q as well as the coal processing and storage operations (other than the open storage piles) is subject to the applicable provisions of 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants due to the size of the coal preparation plant and its date of installation. A copy of Subpart Y has been included in Appendix A of this permit. The applicable provisions of this subpart include, but are not necessarily limited to, the items contained in Specific Conditions #104 through #105. [40 CFR §60.250(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

104. 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). [§19.304 of Regulation #19 and 40 CFR §60.254(a)]

105. The owner or operator shall determine compliance with the opacity standards using EPA Reference Method 9 and the procedures in §60.11. [§19.304 of Regulation #19 and 40 CFR §60.254(b)(2)]

SN-22Q
Ag-Lime Loadout to Truck

Source Description

The Ag-Lime truck loadout operations have been designated as source SN-22Q. No control equipment is associated with this source.

Specific Conditions

106. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #110 and #112 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.1	0.1

107. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #110 and #112 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.10

108. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
22Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

109. The permittee shall conduct daily observations of the opacity from source SN-22Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

110. The permittee shall not exceed the following process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN	Tons of limestone products (including but not limited to Ag-Lime) per consecutive 12 month period
22Q	200,000

111. The permittee shall maintain records of the amounts of limestone products (including but not limited to Ag-Lime) processed at SN-22Q in order to demonstrate compliance with Specific Condition #110 and which may be used by the Department for enforcement purposes. These records shall be updated by the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19 and 40 CFR Part 52, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

112. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-22Q. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-24Q
Rotary Lime Kiln 2

Source Description

Construction on this rotary lime kiln was in the fall of 2003. The fuels for this kiln will be a blend of coal and coke with natural gas. The permittee may use 100% natural gas when it is necessary to produce a low sulfur lime product. Particulate matter emissions are controlled through the use of a baghouse. Sulfur dioxide emissions are controlled through dry scrubbing which occurs naturally in the lime kiln and at the filter cake on the baghouse. No other control equipment is associated with this lime kiln.

This source is subject to 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants, 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, and PSD.

The following table lists the BACT Limits and Determinations for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 15% Opacity	Baghouse-type Dust Collector
SO_2	4% by Weight Sulfur in Fuel on a Daily Basis and 3% by Weight Sulfur in Fuel on a 30-Day Rolling Average	Natural Dry Scrubbing In Kiln and Baghouse
NO_X	3.5 lb NO_X per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation

Specific Conditions

113. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #117, #118, #120, #124, #134, #142, and #145, and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	5.8	22.9
PM	5.80	22.90
SO_2	44.8	141.6
NO_X	100.2	399.3

114. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #117, #118, #120, and #147 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	3.4	14.2
CO	85.9	342.2

115. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #118 and #120 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
HCl	8.00	35.04

116. All required tests shall be conducted while firing coal and/or coke. All required tests shall also be conducted in accordance with Plantwide Condition 3. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

117. The permittee shall use only coal, coke, or pipeline quality natural gas to fire the rotary lime kiln. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

118. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Coal and/or Coke per consecutive 12 month period
24Q	47,254

119. The permittee shall maintain records of the amount of coal and coke fired in the lime kiln in order to demonstrate compliance with Specific Condition #118 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

120. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Lime per day
24Q	687.0

121. The permittee shall maintain daily records of the lime produced in order to demonstrate compliance with Specific Condition #120 and which may be used by the Department for enforcement purposes. These records shall be updated daily, kept on site, and made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

122. The permittee shall obtain a manufacturer's certification of the ash mineral analysis of the coal in order to demonstrate that any possible emissions of Hazardous Air Pollutants (HAPs) are below the de minimis levels. A new certification shall be obtained each time that coal is obtained from a different mine. This certification shall be kept on site and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

PM/PM_{10} & Opacity

123. Particulate matter emissions from source SN-24Q shall not exceed 0.015 grains per dry standard cubic foot of air. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

124. The permittee shall test SN-24Q every five years for particulate matter using Method 5. EPA Reference Method 5 results shall be used in order to demonstrate compliance with the pound per hour emission limit set forth in Specific Condition #113 and the grain loading factor set forth in Specific Condition #123. All tests shall take place in accordance with the plantwide conditions of this permit. The most recent test was performed April 11, 2008. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

NSPS Subpart HH

125. Source SN-24Q is subject to the provisions of 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants. A copy of Subpart HH has been included in Appendix B of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #126 through #130. [40 CFR §60.340(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

126. For the purpose of conducting a performance test under §60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of stone feed to the affected rotary lime kiln. The measuring device used must be accurate to within + or - 5 percent of the mass rate over its operating range. The permittee shall continue to maintain and operate this device after the initial performance test has been completed. This testing was performed in April, 2004. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(d), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

127. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
24Q	15%	§18.501 of Regulation #18, §19.304 and §19.901 et seq. of Regulation #19 40 CFR §60.342(a)(2), 40 CFR §63.7080 Table 2, Item 1, 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

128. The owner or operator of a facility that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from the rotary lime kiln. The span of this system shall be set at 40 percent opacity. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(a), 40 CFR §63.7113(g), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

129. For the purpose of reports required under §60.7(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the visible emissions from any lime kiln subject to paragraph (a) of this subpart is greater than 15 percent. [§19.304 of Regulation #19 and 40 CFR §60.343(e)]

130. 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). [§19.304 and §19.702 of Regulation #19, 40 CFR Part 52, Subpart E, and 40 CFR §60.344(a)]

MACT AAAAA

131. Source SN-24Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #127, #132 through #141 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

132. Source SN-24Q has been defined as a new lime kiln because construction or reconstruction began after December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(b)]

133. Particulate emissions from SN-24Q shall not exceed 0.10 lbs per ton of stone fed. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 1, Item 3]

134. The owner or operator shall determine compliance with the particulate matter standards in Specific Condition #133 as follows: [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 3, Item 1]

a. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (Cs\ Qsd)/PK$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton) of stone feed
Cs = concentration of particulate matter, g/dscm (g/dscf)
Qsd = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
P = stone feed rate, Mg/hr (ton/hr)
K = conversion factor, 1000 g/kg (453.6g/lb)

b. Method 5 shall be used at negative pressure fabric filters and other types of control devices and Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (Cs) and the volumetric flow rate of the effluent gas (Qsd). The sampling time and the sample volume for each run shall be at least 60 minutes and 0.9 dscm (31.8 dscf).

c. The monitoring device of Specific Condition #126 shall be used to determine the stone feed rate (P) for each run.

d. The permittee shall conduct the performance test of #134a, b, and c every five years following the initial performance test.

135. The permittee shall maintain a fabric filter on SN-24Q such that the opacity requirement of 15% is not exceeded on a 6-minute block average. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 2, Item 1]

136. For Rotary Lime Kiln 2 (SN-24Q), the permittee must inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in Item 6 of Table 2 to this subpart and record the results of each inspection. [§19.304 of Regulation #19 and 40 CFR §63.7113(f)]

137. For each COMS used to monitor an add-on air pollution control device, the permittee must meet the following requirements: [§19.304 of Regulation #19 and 40 CFR §63.7113(g)]

    1. Install the COMS at the outlet of the control device.

    2. Install, maintain, calibrate, and operate the COMS as required by 40 CFR Part 63, Subpart A, General Provisions and according to Performance Specification – 1 of Appendix B to Part 60 of this chapter. Facilities that operate COMS installed on or before February 6, 2001, may continue to meet the requirements in effect at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

138. The permittee shall collect COMS data at a frequency of at least once every 15 seconds. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 5, Item 4(a)(ii)]

139. The permittee shall implement the written Operations, Maintenance, and Monitoring (OM&M) plan submitted with this permit application. Any subsequent changes to the plan must be submitted for review and approval. [§19.304 of Regulation #19 and 40 CFR §63.7100(d)]

140. Rotary Lime Kiln 2 (SN-24Q) must vent captured emissions through a closed system. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6a]

141. Rotary Lime Kiln 2 (SN-24Q) must operate each capture/collection system according to procedures in the OM&M plan. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6b]

SO_2

142. The sulfur content of the fuel mix used to fire the kiln shall not exceed 4% by weight on a daily basis as fired in the kiln and shall not exceed 3% on a rolling 30-day average. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

143. The permittee shall obtain manufacturer's certification of the sulfur content of each shipment of the coal/coke mix or conduct tests of each shipment of fuel to determine the sulfur content and shall perform any necessary calculations in order to demonstrate compliance with Specific Condition #142 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

NO_X

144. Emissions of oxides of nitrogen shall not exceed 3.5 lbs per ton of lime produced on a 30-day rolling average. [§19.501 et seq. and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

145. The permittee shall test source SN-24Q for oxides of nitrogen using EPA Reference Method 7E. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat this test every five years. The most recent test was performed April 11, 2008. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

146. The permittee shall demonstrate compliance with the NO_X emissions limit in Specific Condition #144 for source SN-24Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

a. The permittee shall install, calibrate, maintain, and operate a continuous oxygen monitor in the exhaust end, but before the preheater, of source SN-24Q. The permittee shall operate the oxygen monitor in accordance with the QA/QC practices listed in Specific Conditions #146e through #146h.

b. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is less than or equal to 0.93%.

c. The permittee shall use this oxygen monitor to demonstrate compliance with the maximum $\%O_2$ kiln gas limit established by the testing required by Specific Condition #145. The permittee shall use the data from the continuous oxygen monitor (to predict the NO_X emission rate), along with lime production records, to demonstrate compliance with Specific Condition #144.

d. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average

for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #146b.

e. The oxygen monitor shall meet a minimum frequency of monitor operation of 95% up-time.

f. Source SN-24Q shall comply with the limit in Specific Condition #146b by meeting a minimum frequency of 95% compliance on a 30-day rolling average.

g. The permittee shall conduct calibration and zero-span checks of the O_2 monitor when the cells are replaced and every four weeks following installation per the manufacturer's recommended calibration procedures.

h. Within 14 days prior to the annual kiln performance stack tests, a kiln gas sample from the O_2 monitor shall be split and analyzed by a certified, third-party O_2 analyzer. The relative accuracy (RA) of the O_2 monitor shall be determined by this split sample and the RA estimation method in 40 CFR 60, Appendix B, Performance Draft Specification 2. The RA of the O_2 monitor shall be no greater than 20%. Results of the RA calculation shall be included with the performance test report.

i. Monitor up-time, monitor calibration checks, the $\%O_2$ rolling 30-day average values, and any deviations from the rolling 30-day O_2 limit shall be recorded daily, kept on-site, and made available to Department personnel upon request. A report including the total monitor up-time, kiln operating time, 30-day rolling average $\%O_2$ values, and percent compliance shall be submitted to the Department in accordance with General Provision #7.

CO

147. The permittee shall test source SN-24Q for carbon monoxide using EPA Reference Method 10. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat this test every five years. The most recent test was performed April 11, 2008. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

148. The permittee shall demonstrate compliance with the CO emissions limits in Specific Condition #114 for source SN-24Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

a. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is not less than 0.60%.

b. The permittee shall use the oxygen monitor required by Specific Condition #146a to demonstrate compliance with the minimum $\%O_2$ kiln gas limit established by Specific Condition #148a. The permittee shall operate the oxygen monitor in accordance with Specific Conditions #146e through #146i.

c. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #148a.

SN-25Q
#2 Lime Discharge (Nuisance Dust Collector)

Source Description

After the limestone has been calcined in the #2 Rotary Lime Kiln, it is sent to the #2 Lime Product Cooler. Emissions from this source are controlled through the use of a dust collector.

This source is subject to PSD and CAM for particulate emissions. Daily opacity observations are the method used to demonstrate CAM.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

149. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #152 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.3	1.2
PM	0.30	1.20

150. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
25Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, and A.C.A.

151. The permittee shall conduct daily observations of the opacity from source SN-25Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

152. Particulate matter emissions from source SN-25Q shall not exceed 0.015 grains per dry standard cubic foot of air. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-26Q
#1 and #2 Coal/Coke Bin Vents

Source Description

The Coal Bin Vents were last modified in 2004.

This source is subject to PSD. The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

153. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #156 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.3	1.2
PM	0.30	1.20

154. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
26Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52

155. The permittee shall conduct weekly observations of the opacity from sources SN-26Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

156. Particulate matter emissions from source SN-26Q shall not exceed 0.015 grains per dry standard cubic foot of air. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-27Q
Kiln Feed Belt into #2 Kiln Surge Bin

Source Description

This source was installed in 2003.

This source is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants, 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, and PSD.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	10% Opacity	Water Spray Upstream and Surge Bin Vacuum

Specific Conditions

157. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #160 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.10	0.10
PM_{10}	0.1	0.1

158. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
27Q	10%	§18.501 of Regulation #18, §19.304 and §19.901 et seq. of Regulation #19 40 CFR §60.672(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

159. The permittee shall conduct weekly observations of the opacity from source SN-27Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

160. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
27Q	450,000

161. The permittee shall maintain records of the limestone throughput at source SN-27Q in order to demonstrate compliance with Specific Condition #160 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

162. Source SN-27Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Conditions #158 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

163. Source SN-27Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #158 and #164 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

164. Source SN-27Q has been defined as a new processed stone handling (PSH) operation because construction or reconstruction began after December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(c)]

SN-28Q
#1 and #2 Coal/Coke Transfer Points

Source Description

Source SN-28Q, which was subject to PSD review for the Kiln 2 permit (R2 permit), is the emissions from the transfer of coal/coke from the Incline Belt into the diverter chute leading to the #1 and #2 Fuel Bins (also called the Coal/Coke Bins).

Compliance with these emission rates will be demonstrated through the limit on the amount of coal and coke that the permittee is allowed to fire in the rotary lime kilns. The Department recognizes that source SN-28Q will be handling some of the coal and coke more than one time. However, since the permittee will not be buying significantly more coal and coke than will be burned in the lime kilns, no additional record keeping will be required for source SN-28Q.

Due to the additional coal being handled, the coal/coke preparation plant will now be subject to the requirements of 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants. This source is also subject to PSD.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	20% Opacity	Non-Point Source

Specific Conditions

165. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. and §19.901 of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
28Q	PM	0.10	0.10
	PM_{10}	0.1	0.1

166. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
28Q	20%	§19.304, §19.503, and §19.901 of Regulation #19 40 CFR §60.252(c), and 40 CFR Part 52, Subpart E

167. The permittee shall conduct daily observations of the opacity from source SN-28Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

168. Source SN-28Q is subject to the applicable provisions of 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants due to the size of the coal preparation plant and its date of installation. A copy of Subpart Y has been included in Appendix A of this permit. The applicable provisions of this subpart include, but are not necessarily limited to, the items contained in Specific Conditions #166, #169, and #170. [40 CFR §60.250(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

169. 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). [§19.304 of Regulation #19 and 40 CFR §60.254(a)]

170. The owner or operator shall determine compliance with the opacity standards using EPA Reference Method 9 and the procedures in §60.11. [§19.304 of Regulation #19 and 40 CFR §60.254(b)(2)]

SN-30Q
Rotary Lime Kiln 3

Source Description

Construction on this rotary lime kiln will begin after permit issuance. The fuels for this kiln will be a blend of coal and coke with natural gas. The permittee may use 100% natural gas when it is necessary to produce a low sulfur lime product. Particulate matter emissions will be controlled through the use of a baghouse. Sulfur dioxide emissions will be controlled through dry scrubbing which occurs naturally in the lime kiln and at the filter cake on the baghouse. No other control equipment is associated with this lime kiln.

This source is subject to 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants, 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, PSD, and CAM.

The following table lists the BACT Limits and Determinations for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.10 lb/ton of Stone Feed 15% Opacity	Baghouse-type Dust Collector type Dust Collector
SO_2	4% by Weight Sulfur in Fuel on a Daily Basis and 3% by Weight Sulfur in Fuel on a 30-Day Rolling Average	Natural Dry Scrubbing In Kiln and Baghouse
CO	3.0 lb of CO per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation
NO_X	3.5 lb NO_X per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation

Specific Conditions

171. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #175, #176, #178, #181, #0, #192, #200, #203, and #207 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	5.8	22.9
PM	5.80	22.90
SO_2	44.8	141.6
CO	85.9	342.2
NO_x	100.2	399.3

172. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #175, #176, #178, and #205 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	3.4	14.2

173. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #176 and #178 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
HCl	8.00	35.04

174. All required tests shall be conducted while firing coal and/or coke. All required tests shall also be conducted in accordance with Plantwide Condition #3. [§19.702 and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

175. The permittee shall use only coal, coke, or pipeline quality natural gas to fire the rotary lime kiln. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

176. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Coal and/or Coke per consecutive 12 month period
30Q	47,254

177. The permittee shall maintain records of the amount of coal and coke fired in the lime kiln in order to demonstrate compliance with Specific Condition #176 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19, and 40 CFR Part 52, Subpart E]

178. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Lime per day
30Q	687.0

179. The permittee shall maintain daily records of the lime produced in order to demonstrate compliance with Specific Condition #178 and which may be used by the Department for enforcement purposes. These records shall be updated daily, kept on site, and made available to Department personnel upon request. An annual total and each month's individual data shall be submitted to the Department in accordance with General Provision 7. [§19.705 of Regulation #19 and 40 CFR Part 52, Subpart E]

180. The permittee shall obtain a manufacturer's certification of the ash mineral analysis of the coal in order to demonstrate that any possible emissions of Hazardous Air Pollutants (HAPs) are below the de minimis levels. A new certification shall be obtained each time that coal is obtained from a different mine. This certification shall be kept on site and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

PM/PM_{10} & Opacity Conditions

181. Particulate matter emissions from source SN-30Q shall not exceed 0.10 lb/ton of stone feed. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

182. The permittee shall test SN-30Q for particulate matter using EPA Reference Method 5 every five years in order to demonstrate compliance with the pound per hour emission limit set forth in Specific Condition #171 and the pound per ton limit set forth in Specific Condition #181. The most recent test was performed April 11, 2008. All tests shall take place in accordance with the plantwide conditions of this permit. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

NSPS HH

183. Source SN-11Q is subject to the provisions of 40 CFR Part 60, Subpart HH - Standards of Performance for Lime Manufacturing Plants. A copy of Subpart HH has been included in Appendix B of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #184 through #188. [40 CFR §60.340(a) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

184. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
30Q	15%	§18.501 of Regulation #18, §19.304 and §19.901 et. seq. of Regulation #19 40 CFR §60.342(a)(2), 40 CFR §63.7080 Table 2, Item 1, 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

185. The owner or operator of a facility that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from the rotary lime kiln. The span of this system shall be set at 40 percent opacity. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(a), 40 CFR §63.7113(g), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

186. For the purpose of conducting a performance test under §60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of stone feed to the affected rotary lime kiln. The measuring device used must be accurate to within + or - 5 percent of the mass rate over its operating range. The permittee shall continue to maintain and operate this device after the initial performance test has been completed. [§19.304 and §19.703 of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR §60.343(d), and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

187. For the purpose of reports required under §60.7(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the visible emissions from any lime kiln subject to paragraph (a) of this subpart is greater than 15 percent. [§19.304 of Regulation #19 and 40 CFR §60.343(e)]

188. 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). [§19.304 and §19.702 of Regulation #19, 40 CFR Part 52, Subpart E, and 40 CFR §60.344(a)]

MACT AAAAA

189. Source SN-30Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #184, #190 through #199 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

190. Source SN-30Q has been defined as a new lime kiln because construction or reconstruction began after December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(b)]

191. Particulate emissions from SN-30Q shall not exceed 0.10 lbs per ton of stone fed. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 1, Item 3]

192. The owner or operator shall determine compliance with the particulate matter standards in Specific Condition #191 as follows: [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 3, Item 1]

a. The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (Cs\ Qsd)/PK$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton) of stone feed
Cs = concentration of particulate matter, g/dscm (g/dscf)
Qsd = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)
P = stone feed rate, Mg/hr (ton/hr)
K = conversion factor, 1000 g/kg (453.6g/lb)

b. Method 5 shall be used at negative pressure fabric filters and other types of control devices and Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (Cs) and the volumetric flow rate of the effluent gas (Qsd). The sampling time and the sample volume for each run shall be at least 60 minutes and 0.9 dscm (31.8 dscf).

c. The monitoring device of Specific Condition #186 shall be used to determine the stone feed rate (P) for each run.

d. The permittee shall conduct the performance test of #192a, b, and c every five years following the initial performance test.

193. The permittee shall maintain a fabric filter on SN-30Q such that the opacity requirement of 15% is not exceeded on a 6-minute block average. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 2, Item 1]

194. For Rotary Lime Kiln 3 (SN-30Q), the permittee must inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in Item 6 of Table 2 to this subpart and record the results of each inspection. [§19.304 of Regulation #19 and 40 CFR §63.7113(f)]

195. For each COMS used to monitor an add-on air pollution control device, the permittee must meet the following requirements: [§19.304 of Regulation #19 and 40 CFR §63.7113(g)]

1. Install the COMS at the outlet of the control device.

2. Install, maintain, calibrate, and operate the COMS as required by 40 CFR Part 63, Subpart A, General Provisions and according to Performance Specification – 1 of Appendix B to Part 60 of this chapter. Facilities that operate COMS installed on or before February 6, 2001, may continue to meet the requirements in effect at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

196. The permittee shall collect COMS data at a frequency of at least once every 15 seconds. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 5, Item 4(a)(ii)]

197. The permittee shall implement the written Operations, Maintenance, and Monitoring (OM&M) plan submitted with this permit application. Any subsequent changes to the plan must be submitted for review and approval. [§19.304 of Regulation #19 and 40 CFR §63.7100(d)]

198. Rotary Lime Kiln 3 (SN-30Q) must vent captured emissions through a closed system. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6a]

199. Rotary Lime Kiln 3 (SN-30Q) must operate each capture/collection system according to procedures in the OM&M plan. [§19.304 of Regulation #19 and 40 CFR §63.7180 Table 2, Item 6b]

SO_2

200. The sulfur content of the fuel mix used to fire the kiln shall not exceed 4% by weight on a daily basis as fired in the kiln and shall not exceed 3% on a rolling 30-day average. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

201. The permittee shall obtain manufacturer's certification of the sulfur content of each shipment of the coal/coke mix or conduct tests of each shipment of fuel to determine the sulfur content and shall perform any necessary calculations in order to demonstrate compliance with Specific Condition #200 and which may be used by the Department for enforcement purposes. These records shall be updated daily, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

NO_X

202. Emissions of oxides of nitrogen shall not exceed 3.5 lbs per ton of lime produced on a 30-day rolling average. [§19.501 et seq. and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

203. The permittee shall test source SN-30Q for oxides of nitrogen using EPA Reference Method 7E. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat this test every five years. The most recent test was performed April 11, 2008. [§19.702 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

204. The permittee shall demonstrate compliance with the NO_X emissions limit in Specific Condition #202 for source SN-30Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

    a. The permittee shall install, calibrate, maintain, and operate a continuous oxygen monitor in the exhaust end, but before the preheater, of source SN-30Q. The permittee shall operate the oxygen monitor in accordance with the QA/QC practices listed in Specific Conditions #204e through #204h.

b. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is less than or equal to 0.93%.

c. The permittee shall use this oxygen monitor to demonstrate compliance with the maximum $\%O_2$ kiln gas limit established by the testing required by Specific Condition #203. The permittee shall use the data from the continuous oxygen monitor (to predict the NO_X emission rate), along with lime production records, to demonstrate compliance with Specific Condition #202.

d. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #204b

e. The oxygen monitor shall meet a minimum frequency of monitor operation of 95% up-time.

f. Source SN-30Q shall comply with the limit in Specific Condition #204b by meeting a minimum frequency of 95% compliance on a 30-day rolling average.

g. The permittee shall conduct calibration and zero-span checks of the O_2 monitor when the cells are replaced and every four weeks following installation per the manufacturer's recommended calibration procedures.

h. Within 14 days prior to the annual kiln performance stack tests, a kiln gas sample from the O_2 monitor shall be split and analyzed by a certified, third-party O_2 analyzer. The relative accuracy (RA) of the O_2 monitor shall be determined by this split sample and the RA estimation method in 40 CFR 60, Appendix B, Performance Draft Specification 2. The RA of the O_2 monitor shall be no greater than 20%. Results of the RA calculation shall be included with the performance test report.

i. Monitor up-time, monitor calibration checks, the $\%O_2$ rolling 30-day average values, and any deviations from the rolling 30-day O_2 limit shall be recorded daily, kept on-site, and made available to Department personnel upon request. A report including the total monitor up-time, kiln operating time, 30-day rolling average $\%O_2$ values, and percent compliance shall be submitted to the Department in accordance with General Provision #7.

VOC

205. The permittee shall test the rotary lime kiln for volatile organic compounds using EPA Reference Method 25A within 60 days of achieving maximum production but no later than 180 days after initial start-up. Using the results of this test, the permittee shall correlate the VOC emissions to the solid fuel usage rate. This requirement has been satisfied as a condition of Air Permit 0045-AOP-R3. Continued compliance with the VOC emission rates will be demonstrated through the coal and coke usage limits. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

CO

206. Emissions of CO shall not exceed 3.0 lbs per ton of lime produced on a 30-day rolling average. [§19.501 et seq. and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

207. The permittee shall test source SN-30Q for carbon monoxide using EPA Reference Method 10. The permittee shall notify the Department at least 30 days in advance of the tests taking place and shall repeat the test every five years. The most recent test was performed April 11, 2008. [§19.702 of Regulation #19 and 40 CFR Part 52, Subpart E]

208. The permittee shall demonstrate compliance with the CO emissions limits in Specific Condition #206 for source SN-30Q by continuously monitoring the oxygen content of the kiln gases according to the following conditions: [§19.703 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

a. The permittee shall operate the kiln at all times, except during startup, shutdown, and malfunction, such that the 30-day rolling average kiln gas percent oxygen ($\%O_2$) content (measured at the oxygen monitor) is not less than 0.60%.

b. The permittee shall use the oxygen monitor required by Specific Condition #204a to demonstrate compliance with the minimum $\%O_2$ kiln gas limit established by Specific Condition #208a. The permittee shall operate the oxygen monitor in accordance with Specific Conditions #204e through #204i.

c. The permittee shall measure at least four, evenly spaced $\%O_2$ values every hour that the kiln is in operation and use the hourly data to develop a 24-hour average for each day. Each daily average shall be used to determine the actual rolling 30-day average for comparison to the limit established by Specific Condition #208a.

SN-31Q
Transfer Points to Extended RKFS Pile

Source Description

This source will be constructed after permit issuance.

Source SN-31Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants and PSD.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	20% Opacity	Water Sprays (upstream)

Specific Conditions

209. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #212 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.90	1.60
PM_{10}	0.5	0.8

210. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
31Q	20%	§19.304, §19.503, and §19.901 et seq. of Regulation #19 40 CFR §60.252(c), and 40 CFR Part 52, Subpart E

211. The permittee shall conduct daily observations of the opacity from sources SN-31Q, and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

212. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
31Q	1,100,000

213. The permittee shall maintain records of the limestone throughput at source SN-31Q in order to demonstrate compliance with Specific Condition #212 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

214. Source SN-31Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #210 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-32Q
#3 Lime Discharge (Nuisance Dust Collector)

Source Description

After the limestone has been calcined in the #3 Rotary Lime Kiln, it is sent to the #3 Lime Product Cooler. Emissions from this source are controlled through the use of a dust collector.

This source is subject to PSD and CAM for particulate emissions. Daily opacity observations are the method used to demonstrate CAM.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.010 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

215. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #218 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.30	1.20
PM_{10}	0.3	1.2

216. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
32Q	5%	§18.501 of Regulation #18, §19.304 et seq. of Regulation #19, A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52

217. The permittee shall conduct daily observations of the opacity from source SN-32Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

218. Particulate matter emissions from source SN-32Q shall not exceed 0.015 grains per dry standard cubic foot of air. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-33Q
#3 Coal/Coke Bin Vent

Source Description

This source will be installed after permit issuance.

This source is subject to PSD. The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

219. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #222 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.20	0.60
PM_{10}	0.2	0.6

220. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
33Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19 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

221. The permittee shall conduct weekly observations of the opacity from sources SN-33Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

222. Particulate matter emissions from source SN-33Q shall not exceed 0.015 grains per dry standard cubic foot of air. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-34Q
#3 Coal/Coke Transfer Point

Source Description

This source will be installed after permit issuance.

The #3 Coal Transfer Point is subject to PSD. The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	20% Opacity	Non-Point Source

Specific Conditions

223. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #176 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.10	0.10
PM_{10}	0.1	0.1

224. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
34Q	20%	§19.304, §19.503, and §19.901 et seq. of Regulation #19 40 CFR §60.252(c), and 40 CFR Part 52, Subpart E

225. The permittee shall conduct daily observations of the opacity from sources SN-34Q, and keep a record of these observations If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite

and make them available to Department personnel upon request. [§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-35Q
Kiln Feed Belt into No. 3 Kiln Surge Bin

Source Description

This source will be installed after permit issuance.

Source SN-35 is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants, 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, and PSD.

The following table lists the BACT Limit and Determination for this source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	10% Opacity	Water Sprays (upstream)

Specific Conditions

226. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #229 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM	0.10	0.10
PM_{10}	0.1	0.1

227. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
35Q	10%	§18.501 of Regulation #18, §19.304 and §19.901 et seq. of Regulation #19 40 CFR §60.672(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

228. The permittee shall conduct weekly observations of the opacity from source SN-35Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

229. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§19.705 and §19.901 et seq. of Regulation #19, 40 CFR Part 52, Subpart E, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
35Q	450,000

230. The permittee shall maintain records of the limestone throughput at source SN-35Q in order to demonstrate compliance with Specific Condition #229 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§19.705 and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

231. Source SN-35Q is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants upon replacement. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #227 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

232. Source SN-35Q is subject to the provisions of 40 CFR Part 63, Subpart AAAAA – National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants. A copy of Subpart AAAAA has been included in Appendix D of this permit. The applicable provisions of this subpart include, but are not limited to, the items found in Specific Conditions #227 and #233 and Plantwide Conditions #13 through #15. [40 CFR §63.7080 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

233. Source SN-35Q has been defined as a new processed stone handling (PSH) operation because construction or reconstruction began after December 20, 2002. [§19.304 of Regulation #19 and 40 CFR §63.7082(c)]

SN-36Q & SN-37Q
Lime Storage Silo Dust Collectors

Source Description

These sources will be installed after permit issuance.

The Lime Storage Silo Dust Collectors are subject to PSD. The following table lists the BACT Limit and Determination for each source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

234. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #237 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
36Q	PM	0.90	4.00
	PM_{10}	0.9	4.0
37Q	PM	0.90	4.00
	PM_{10}	0.9	4.0

235. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
36Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, 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

Source	Limit	Regulatory Citation
37Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, 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

236. The permittee shall conduct weekly observations of the opacity from sources SN-36Q and SN-37Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

237. Particulate matter emissions from source SN-36Q and SN-37Q shall not exceed 0.015 grains per dry standard cubic foot of air for each source. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-38Q & SN-39Q
Lime Loadout Dust Collector

Source Description

These sources will be installed after permit issuance.

The Lime Loadout Dust Collectors are subject to PSD. The following table lists the BACT Limit and Determination for each source:

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.015 gr/dscf 5% Opacity	Baghouse-type Dust Collector

Specific Conditions

238. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #241 and equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
38Q	PM	0.20	0.80
	PM_{10}	0.2	0.8
39Q	PM	0.20	0.80
	PM_{10}	0.2	0.8

239. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
38Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, 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

Source	Limit	Regulatory Citation
39Q	5%	§18.501 of Regulation #18, §19.901 et seq. of Regulation #19, 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

240. The permittee shall conduct weekly observations of the opacity from sources SN-38Q and SN-39Q and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

241. Particulate matter emissions from source SN-38Q and SN-39Q shall not exceed 0.015 grains per dry standard cubic foot of air for each source. Compliance with this condition will be demonstrated by equipment limitations. [§19.501 et seq. and §19.901 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN-40Q
LKD Truck Loading

Source Description

This source is where trucks are loaded for transfer to the quarry pile.

Specific Conditions

242. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.2	0.3

243. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.40	0.60

SN-41Q
LKD Truck Dumping

Source Description

Source SN-41Q is the site where trucks from SN-40Q are dumped into a quarry pile.

Specific Conditions

244. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.2	0.3

245. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.40	0.60

SN-01P
Limestone Drop Points

Source Description

Currently, this source consists of four conveyor transfer or drop points located at the PLS plant portion of this facility.

This source is subject to the provisions of 40 CFR Part 60, Subpart OOO - Standards of Performance for Non-Metallic Mineral Processing Plants. Water sprays are the only controls associated with this source.

Specific Conditions

246. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #250 and #252 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.3	0.7

247. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #250 and #252 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.53	1.35

248. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
01P	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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

249. The permittee shall conduct weekly observations of the opacity from source SN-01P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

250. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Limestone per consecutive 12 month period
01P	432,000

251. The permittee shall maintain records of the amount of limestone processed at SN-01P in order to demonstrate compliance with Specific Condition #251 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

252. The permittee shall maintain and operate water sprays located upstream in the process in order to reduce fugitive emissions from source SN-01P. The water sprays shall be used whenever the material dampness is not sufficient to adequately control fugitive emissions. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

253. Source SN-01P is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #248 and Plantwide Conditions #7 through #12.

SN-12P, SN-13P, SN-14P, & SN-29P
Hydrated Lime System

Source Description

Quicklime is reacted with water to form hydrated lime which is a soft powder. Emissions from sources SN-10 and SN-11 have been routed through the baghouse located at source SN-12. Previously, emissions from source SN-10 and SN-11 were controlled through the use of wet scrubbers.

The Hydrate Separator System Dust Collector (SN-12P) was installed in 1998. Source SN-12 is equipped with a natural gas fired heater.

The Hydrate Storage Tank Loadout (SN-13P) is a fabric filter type dust collector which controls emissions generated by the hydrate sales loadout. The Hydrated Lime Bagging Operations (SN-14P) is a fabric filter type dust collector which controls emissions generated by the hydrate bagging operations. The Hydrate Storage Dust Collector (SN-29P) is a fabric filter type dust collector which controls emissions generated by the hydrate storage tank.

Source SN-12Q is subject to CAM for particulate emissions. Daily opacity observations are the method used to demonstrate CAM.

Specific Conditions

254. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #258 and #261 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
12P	PM_{10}	1.9	8.2
	SO_2	0.1	0.1
	VOC	0.1	0.2
	CO	0.4	1.5
	NO_X	0.4	1.8
13P	PM_{10}	0.3	1.0
14P	PM_{10}	0.8	3.3
29P	PM_{10}	0.2	0.8

255. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #258 and #261 and equipment limitations. [§18.801 of Regulation #18 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
12P	PM	1.90	8.20
13P	PM	0.30	1.00
14P	PM	0.80	3.30
29P	PM	0.20	0.80

256. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
12P	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
13P	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
14P	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
29P	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

257. The permittee shall conduct weekly observations of the opacity from sources SN-13P, SN-14P, and SN29P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

258. The permittee shall conduct daily observations of the opacity from source SN-12P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

259. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Bagged Hydrated Lime per consecutive 12 month period
14P	70,080

260. The permittee shall maintain records of the amount of lime processed at SN-14P in order to demonstrate compliance with Specific Condition #259 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

261. Pipeline quality natural gas shall be the only fuel used to fire the heater located at source SN-12P. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-15P & SN-16P
Rice Lime Screen & Crusher and Lime Storage Tank Loadouts

Source Description

The Rice Lime Screen & Crusher (SN-15P) is a fabric filter type dust collector which controls emissions generated by the rice lime screen. The Lime Storage Tank Loadouts (SN-16P) is a fabric filter type dust collector which controls emissions generated by the truck loadout of quicklime sales.

Specific Conditions

262. [Reserved]

263. [Reserved]

264. [Reserved]

265. [Reserved]

266. [Reserved]

267. [Reserved]

SN-18P & SN-19P
Stone and Roller Mill Plants #1 and #2

Source Description

The two roller mills are nearly identical. These systems rely on air circulation to remove the ground limestone from the mill and also rely on baghouses for the control of particulate matter emissions. The two roller mills are also both fired by natural gas.

Source SN-19P is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. Both sources SN-18P and SN-19P are subject to CAM for particulate emissions. Daily opacity observations are the method used to demonstrate CAM.

Specific Conditions

268. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #272 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
18P	PM_{10}	2.7	11.5
	SO_2	0.1	0.1
	VOC	0.1	0.1
	CO	0.3	1.1
	NO_X	0.3	1.2
19P	PM_{10}	1.8	7.8
	SO_2	0.1	0.1
	VOC	0.1	0.1
	CO	0.3	1.1
	NO_X	0.3	1.2

269. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #272 and equipment limitations. [§18.801 of Regulation #18 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
18P	PM	2.70	11.50
19P	PM	1.80	7.80

270. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
18P	5%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E
19P	5%	§18.501 of Regulation #18, 40 CFR §60.672(c), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

271. The permittee shall conduct daily observations of the opacity from sources SN-18P and SN-19P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18, 40 CFR 64, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

272. The permittee shall use only pipeline quality natural gas to fire sources SN-18P and SN-19P. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

273. Source SN-19P is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants upon replacement. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #270 and Plantwide Conditions #7 through #12. [40 CFR §60.670 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-20P & SN-24P
PLS Screening Operations and PLS Bagging Operations

Source Description

The PLS screening operations have been designated as source SN-20P. These operations take place inside a partially enclosed building which has flexible strips on the openings in order to reduce emissions. The PLS bagging operations have been designated as source SN-24P. These operations also take place inside a partially enclosed building.

Specific Conditions

274. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #279 and #281 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Source	Pollutant	lb/hr	tpy
20P	PM_{10}	0.4	1.4
24P	PM_{10}	0.4	1.7

275. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #279 and #281 and equipment limitations. [§18.801 of Regulation #18 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
20P	PM	0.67	2.94
24P	PM	0.40	1.70

276. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
20P	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E
24P	5%	§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

277. The permittee shall conduct daily observations of the opacity from source SN-20P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

278. The permittee shall conduct weekly observations of the opacity from source SN-24P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

279. The permittee shall not exceed the process rates set forth in the following table at the designated sources. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Source	Tons of Pulverized Limestone per consecutive 12 month period
20P	262,800
24P	35,040

280. The permittee shall maintain records of the amount of Pulverized Limestone (PLS) processed at SN-20P and SN-24P in order to demonstrate compliance with Specific Condition #279 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

281. The permittee shall maintain flexible strips (canvas or plastic) at the building(s) partially enclosing source SN-20P. [§19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-26P
Paved PLS/Lime Plant Roads

Source Descriptions

The plant roads were paved in 2002.

Specific Conditions

282. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.4	0.3

283. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	1.60	1.20

SN-30P, SN-31P, SN-33P, & SN-34P
Consolidated PLS Truck Loadouts and Railcar Drop-Outs

Source Description

Source SN-30P controls the emissions generated by the new consolidated PLS loadout bin vent. Source SN-31P controls the emissions generated by new consolidated PLS truck loadout and will vent back into the loadout bin. Source SN-33P controls the emissions generated by the consolidated PLS 140 railcar drop-out. Source SN-34P controls the emissions generated by the consolidated PLS 270 railcar drop-out.

These sources are subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. All of these sources use fabric-filter type dust collectors to control the emissions.

Specific Conditions

284. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

SN	Pollutant	lb/hr	tpy
30P	PM_{10}	0.4	1.5
31P	vents back into the loadout bin		
33P	PM_{10}	0.2	0.8
34P	PM_{10}	0.2	0.8

285. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN	Pollutant	lb/hr	tpy
30P	PM	0.40	1.50
31P	vents back into the loadout bin		
33P	PM	0.20	0.80
34P	PM	0.20	0.80

286. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
30P	7%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(f), 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
33P	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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
34P	10%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(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

287. The permittee shall conduct weekly observations of the opacity from sources SN-30P, SN-33P, and SN-34P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

288. Sources SN-30P, SN-33P, and SN-34P are subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #286 and Plantwide Conditions #7 through #12.

SN-35P
Quicklime Fines Rail Unloading Pit

Source Description

Emissions are generated by the unloading of railcars containing lime.

Specific Conditions

289. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.4	1.7

290. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.40	1.70

291. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
35P	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

292. The permittee shall conduct daily observations of the opacity from source SN-35P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

SN-36P
Modified PLS Products Loading Station

Source Description

The Modified PLS Products Loading Station includes a new classifier along with a new screw conveyor extension. Source SN-36P will be installed in the Roller Mill #2 system. This change is not related to the proposed Kiln 3 PSD project. This project is located in the "old Lime plant" portion of the facility and not the quarry site where the kilns are located. The new classifier will allow production of PLS products with size characteristics different than the products currently produced. A loading chute with a slide gate and loading spout will also be installed at the end of the screw conveyor extension to allow truck or railcar loading of modified PLS products.

Source SN-36P is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants.

Specific Conditions

293. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.2	0.8

294. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.20	0.80

295. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
36P	7%	§18.501 of Regulation #18, §19.304 of Regulation #19 40 CFR §60.672(a)(2), 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

296. The permittee shall conduct weekly observations of the opacity from source SN-36P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

297. Source SN-36P is subject to 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. A copy of Subpart OOO may be found in Appendix C of this permit. The requirements of this subpart include, but are not limited to, the items found in Specific Condition #295 and Plantwide Conditions #7 through #12.

SN-42Q
Open Top Truck Lime Loading

Emissions are based on 50 trucks per year and 25 tons loaded per truck.

Source Description

298. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #301. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	37.5	1.0

299. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #301. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	37.50	1.00

300. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
42Q	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

301. The permittee is limited to 50 trucks per 12-month rolling period loaded at this source. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR 70.6, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

302. The permittee shall maintain records of the number of trucks loaded in order to demonstrate compliance with Specific Condition #301 and which may be used by the Department for enforcement purposes. These records shall be updated no later than the fifteenth day of the month following the month which the records represent, shall be kept on site, and shall be made available to Department personnel upon request. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

303. The permittee shall conduct daily observations of the opacity from source SN-42Q during loading and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

SN-44P
Hydrate Rejects Discharge

This source handles about 2,000 tons per year.

Source Description

304. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM_{10}	0.6	2.2

305. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.6	2.2

306. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

Source	Limit	Regulatory Citation
44P	20%	§19.503 of Regulation #19 and 40 CFR Part 52, Subpart E

307. The permittee shall conduct daily observations of the opacity from source SN-44P and keep a record of these observations. If the permittee determines that the opacity is greater than the permitted limits, the permittee must immediately take action to identify and correct the cause of the exceedance. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions exceedance and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]]

SECTION V: COMPLIANCE PLAN AND SCHEDULE

Arkansas Lime Company 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 otherwise 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:

    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.

    [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]

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]

NSPS Subpart OOO

7. In conducting the performance tests required in 40 CFR §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). Acceptable alternative methods and procedures are given in paragraph (e) of this section. [§19.304 of Regulation #19 and 40 CFR §60.675(a)]

8. In determining the compliance with the particulate matter standards in §60.672(c) for Crushers (SN-01Q and SN-02Q), the owner or operator shall use Method 9 and the procedures in 40 CFR §60.11, with the following additions: [§19.304 of Regulation #19 and 40 CFR §60.675(c)(1)]

    a. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

    b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

    c. For affected facilities using wet dust suppression for particulate matter, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not considered to be a visible emission. When a water mist of this nature is present, the observation of the emissions is to be made at a point in the plume where the mist is no longer visible.

9. When determining compliance with the fugitive emission standard for any crusher at which a capture system is not used as described under 40 CFR §60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply: [§19.304 of Regulation #19 and 40 CFR §60.675(c)(4)]

    a. There are no individual opacity readings greater than 15 percent opacity; and

    b. There are no more than 3 readings of 15 percent for the 1-hour period.

10. When determining compliance with the fugitive emissions standard for any transfer point on belt conveyors (SN-03Q, SN-07Q, SN-09Q, SN-10Q, SN-31Q, SN-01P, SN-30P, SN-33P, and SN-34P), the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply: [§19.304 of Regulation #19 and 40 CFR §60.675(c)(3)]

    a. There are no individual readings greater than 10 percent opacity; and

    b. There are no more than 3 readings of 10 percent for the 1-hour period.

11. If any conveyor transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each affected facility must comply with the emission limits in paragraph §60.672(b), or the building enclosing the affected facility or facilities must comply with the following emission limits: [§19.304 and §19.503 of Regulation #19, 40 CFR Part 52, Subpart E, and 40 CFR §60.672(e)]

    a. No owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive except emissions from a vent as defined in §60.671.

    b. No owner or operator shall cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in paragraph (a) of this section.

12. The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR §60.672 of this subpart, including reports of opacity observations made using Method 9 to demonstrate compliance with §60.672(b). [§19.304 of Regulation #19 and 40 CFR §60.676(f)]

MACT AAAAA

13. The permittee shall conduct all performance tests as required in Table 4 of 40 CFR part 63, Subpart AAAAA. Subsequent performance tests are to be repeated every 5 years. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 4]

14. The permittee shall submit all reports as required in Table 7 of 40 CFR part 63, Subpart AAAAA. Source SN-11Q is considered and existing source and is not subject to this requirement until January 5, 2007. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 7]

15. The permittee shall comply with all General Provisions to 40 CFR Part 63 as required in Table 8 of 40 CFR part 63, Subpart AAAAA. This includes the preparation of a Startup, Shutdown, and Malfunction Plan as required by §63.6(e)(3). Source SN-11Q is considered and existing source and is not subject to this requirement until January 5, 2007. [§19.304 of Regulation #19 and 40 CFR §63.7080 Table 8]

Title VI Provisions

16. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
    c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

17. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
    c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
    d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC like appliance" as defined at §82.152)
    e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
    f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

18. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

19. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.

20. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

Permit Shield

21. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated August 2004.

Applicable Regulations

Source No.	Regulation	Description
01Q, 02Q, 03Q, 07Q, 09Q, 10Q, 27Q, 31Q, 35Q, 36Q, 01P, 19P, 30P, 33P, 34P, and 36P	40 CFR 60, Subpart OOO	New Source Performance Standards for Non Metallic Mineral Processing Plants
11Q, 24Q, and 30Q	40 CFR 60, Subpart HH	New Source Performance Standards for Lime Manufacturing Plants
21Q, 28Q, and Coal systems	40 CFR 60, Subpart Y	New Source Performance Standards for Coal Preparation Plants
Transfer Point D06 (Kiln Feed Belt into Stone Bin) of SN-07Q, 11Q, 24Q, 27Q, 30Q, and 35Q	40 CFR 63, Subpart AAAAA	National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

Source No.	Regulation	Description
11Q, 24Q, 25Q, 26Q, 27Q, 28Q, 30Q through 39Q	40 CFR 52	Prevention of Significant Deterioration
11Q, 13Q, 15Q, 24Q, 25Q, 32Q, 12P, 18P, and 19P	40 CFR 64	Compliance Assurance Monitoring

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated August 2004.

Inapplicable Regulations

Source No.	Regulation	Description
None Listed		

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.

Description	Category
Lime Cooler Rejects Discharge	A-13
Dribble Chute Discharge	A-13
Railcar Cleanout	A-13
Blast Hole Drilling	A-13
Quarry Blasting	A-13
8,000 gallon Diesel Storage Tank	A-3
1,000 gallon Diesel Storage Tank	A-3
200 gallon Diesel Storage Tank	A-2
Laboratory	A-5
Portable Conveyor	A-13
Big Bag Filling	A-13
Emergency Generator	A-13
1,000 gallon gasoline tank	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, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 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, §18.102(C-D), Regulation 19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 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, §18.102(C-D), Regulation19, §19.103(D), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and CFR Part 52, Subpart E]

APPENDIX A

40 CFR 60 Subpart Y,
New Source Performance Standards for Coal Preparation Plants

shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The equivalent P_2O_5 feed rate (P) shall be computed for each run using the following equation:

$$P=M_p R_p$$

where:

M_p=amount of product in storage, Mg (ton).
R_p=P_2O_5 content of product in storage, weight fraction.

(i) The accountability system of § 60.243(a) shall be used to determine the amount of product (M_p) in storage.

(ii) The Association of Official Analytical Chemists (AOAC) Method 9 (incorporated by reference—see § 60.17) shall be used to determine the P_2O_5 content (R_p) of the product in storage.

[54 FR 6671, Feb. 14, 1989, as amended at 62 FR 18280, Apr. 15, 1997; 65 FR 61757, Oct. 17, 2000]

EDITORIAL NOTE: At 65 FR 61757, Oct. 17, 2000, § 60.244 (c)(1) was amended. However, the instruction, which read in part, "revising the words "metric ton" the words "(453,600 mg/lb)" in the definition of the term "K" to read "(7,000 gr/lb)." . . . " could not be incorporated because of inaccurate amendatory language.

Subpart Y—Standards of Performance for Coal Preparation Plants

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to any of the following affected facilities in coal preparation plants which process more than 181 Mg (200 tons) per day: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after October 24, 1974, is subject to the requirements of this subpart.

[42 FR 37938, July 25, 1977; 42 FR 44812, Sept. 7, 1977, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.251 Definitions.

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

(a) *Coal preparation plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(b) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM Designation D388–77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17).

(c) *Coal* means all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388–77, 90, 91, 95, or 98a (incorporated by reference—see § 60.17).

(d) *Cyclonic flow* means a spiraling movement of exhaust gases within a duct or stack.

(e) *Thermal dryer* means any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(f) *Pneumatic coal-cleaning equipment* means any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(g) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

[41 FR 2234, Jan. 15, 1976, as amended at 48 FR 3738, Jan. 27, 1983; 65 FR 61757, Oct. 17, 2000]

§ 60.252 Standards for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment, gases which:

(1) Contain particulate matter in excess of 0.040 g/dscm (0.017 gr/dscf).

(2) Exhibit 10 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, an owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

[41 FR 2234, Jan. 15, 1976, as amended at 65 FR 61757, Oct. 17, 2000]

§ 60.253 Monitoring of operations.

(a) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(1) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(2) For affected facilities that use venturi scrubber emission control equipment:

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator may be consulted for approval of alternative locations.

(b) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under § 60.13(b).

[41 FR 2234, Jan. 15, 1976, as amended at 54 FR 6671, Feb. 14, 1989; 65 FR 61757, Oct. 17, 2000]

§ 60.254 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 compliance with the particular matter standards in § 60.252 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin.

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

[54 FR 6671, Feb. 14, 1989]

Subpart Z—Standards of Performance for Ferroalloy Production Facilities

SOURCE: 41 FR 18501, May 4, 1976, unless otherwise noted.

§ 60.260 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high-carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust-handling equipment.

APPENDIX B

40 CFR 60 Subpart HH,
New Source Performance Standards for Lime Manufacturing Plants

§ 60.334(e), then the initial performance test required under § 60.8 may be done in the following alternative manner:

(i) Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.

(ii) Use the test data both to demonstrate compliance with the applicable NO_X emission limit under § 60.332 and to provide the required reference method data for the RATA of the CEMS described under § 60.334(b).

(iii) The requirement to test at three additional load levels is waived.

(8) If the owner or operator elects under § 60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO_X emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in § 60.334(g).

(9) To determine the fuel bound nitrogen content of fuel being fired (if an emission allowance is claimed for fuel bound nitrogen), the owner or operator may use equipment and procedures meeting the requirements of:

(i) For liquid fuels, ASTM D2597-94 (Reapproved 1999), D6366-99, D4629-02, D5762-02 (all of which are incorporated by reference, *see* § 60.17); or

(ii) For gaseous fuels, shall use analytical methods and procedures that are accurate to within 5 percent of the instrument range and are approved by the Administrator.

(10) If the owner or operator is required under § 60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using:

(i) For liquid fuels, ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00 or D1552-01 (all of which are incorporated by reference, *see* § 60.17); or

(ii) For gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see § 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

(11) The fuel analyses required under paragraphs (b)(9) and (b)(10) of this section may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) Instead of using the equation in paragraph (b)(1) of this section, manufacturers may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in § 60.8 to ISO standard day conditions.

[69 FR 41363, July 8, 2004, as amended at 71 FR 9458, Feb. 24, 2006]

Subpart HH—Standards of Performance for Lime Manufacturing Plants

SOURCE: 49 FR 18080, Apr. 26, 1984, unless otherwise noted.

§ 60.340 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to each rotary lime kiln used in the manufacture of lime.

(b) The provisions of this subpart are not applicable to facilities used in the manufacture of lime at kraft pulp mills.

(c) Any facility under paragraph (a) of this section that commences construction or modification after May 3, 1977, is subject to the requirements of this subpart.

§ 60.341 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in the General Provisions.

(a) *Lime manufacturing plant* means any plant which uses a rotary lime kiln

to produce lime product from limestone by calcination.

(b) *Lime product* means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) *Positive-pressure fabric filter* means a fabric filter with the fans on the upstream side of the filter bags.

(d) *Rotary lime kiln* means a unit with an inclined rotating drum that is used to produce a lime product from limestone by calcination.

(e) *Stone feed* means limestone feedstock and millscale or other iron oxide additives that become part of the product.

§ 60.342 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 any rotary lime kiln any gases which:

(1) Contain particulate matter in excess of 0.30 kilogram per megagram (0.60 lb/ton) of stone feed.

(2) Exhibit greater than 15 percent opacity when exiting from a dry emission control device.

§ 60.343 Monitoring of emissions and operations.

(a) The owner or operator of a facility that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in paragraphs (b) and (c) of this section, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at 40 percent opacity.

(b) The owner or operator of any rotary lime kiln having a control device with a multiple stack exhaust or a roof monitor may, in lieu of the continuous opacity monitoring requirement of § 60.343(a), monitor visible emissions at least once per day of operation by using a certified visible emissions observer who, for each site where visible emissions are observed, will perform three Method 9 tests and record the results. Visible emission observations shall occur during normal operation of the rotary lime kiln at least once per day. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. Records shall be maintained of any 6-minute average that is in excess of the emissions specified in § 60.342(a) of this subpart.

(c) The owner or operator of any rotary lime kiln using a wet scrubbing emission control device subject to the provisions of this subpart shall not be required to monitor the opacity of the gases discharged as required in paragraph (a) of this section, but shall install, calibrate, maintain, operate, and record the resultant information from the following continuous monitoring devices:

(1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be accurate within ±250 pascals (one inch of water).

(2) A monitoring device for continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ±5 percent of the design scrubbing liquid supply pressure.

(d) For the purpose of conducting a performance test under § 60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device for measuring the mass rate of stone feed to any affected rotary lime kiln. The measuring device used must be accurate to within ±5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the visible emissions from any lime kiln subject to paragraph (a) of this subpart is greater than 15 percent or, in the case of wet scrubbers, any period in which the scrubber pressure drop or scrubbing liquid supply pressure is greater than 30 percent below that established during the performance test. If visible

emission observations are made according to paragraph (b) of this section, reports of excess emissions shall be submitted semiannually.

[49 FR 18080, Apr. 26, 1984, as amended at 52 FR 4773, Feb. 17, 1987; 54 FR 6675, Feb. 14, 1989; 65 FR 61760, Oct. 17, 2000]

§ 60.344 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 compliance with the particulate matter standards in § 60.342(a) as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E=(c_s\ Q_{sd})/PK$$

where:

E=emission rate of particulate matter, kg/Mg (lb/ton) of stone feed.
c_s=concentration of particulate matter, g/dscm (gr/dscf).
Q_{sd}=volumetric flow rate of effluent gas, dscm/hr (dscf/hr).
P=stone feed rate, Mg/hr (ton/hr).
K=conversion factor, 1000 g/kg (7000 gr/lb).

(2) Method 5 shall be used at negative-pressure fabric filters and other types of control devices and Method 5D shall be used at positive-pressure fabric filters to determine the particulate matter concentration (c_s) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(3) The monitoring device of § 60.343(d) shall be used to determine the stone feed rate (P) for each run.

(4) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

(c) During the particulate matter run, the owner or operator shall use the monitoring devices in § 60.343(c)(1) and (2) to determine the average pressure loss of the gas stream through the scrubber and the average scrubbing liquid supply pressure.

[54 FR 6675, Feb. 14, 1989, as amended at 65 FR 61760, Oct. 17, 2000]

Subpart KK—Standards of Performance for Lead-Acid Battery Manufacturing Plants

SOURCE: 47 FR 16573, Apr. 16, 1982, unless otherwise noted.

§ 60.370 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the affected facilities listed in paragraph (b) of this section at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).

(b) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:

(1) Grid casting facility.
(2) Paste mixing facility.
(3) Three-process operation facility.
(4) Lead oxide manufacturing facility.
(5) Lead reclamation facility.
(6) Other lead-emitting operations.

(c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.

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

(a) *Grid casting facility* means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.

(b) *Lead-acid battery manufacturing plant* means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.

(c) *Lead oxide manufacturing facility* means a facility that produces lead oxide from lead, including product recovery.

(d) *Lead reclamation facility* means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under subpart L of this part.

APPENDIX C

40 CFR 60 Subpart OOO,
New Source Performance Standards for Non Metallic Mineral Processing Plants

Chemical name	CAS No.*
Isobutanol	78–83–1
Isobutylene	115–11–7
Isobutyraldehyde	78–84–2
Isodecyl alcohol	25339–17–7
Isooctyl alcohol	26952–21–6
Isopentane	78–78–4
Isophthalic acid	121–91–5
Isoprene	78–79–5
Isopropanol	67–63–0
Ketene	463–51–4
Linear alcohols, ethoxylated, mixed.	
Linear alcohols, ethoxylated, and sulfated, sodium salt, mixed.	
Linear alcohols, sulfated, sodium salt, mixed.	
Linear alkylbenzene	123–01–3
Magnesium acetate	142–72–3
Maleic anhydride	108–31–6
Melamine	108–78–1
Mesityl oxide	141–79–7
Methacrylonitrile	126–98–7
Methanol	67–56–1
Methylamine	74–89–5
ar-Methylbenzenediamine	25376–45–8
Methyl chloride	74–87–3
Methylene chloride	75–09–2
Methyl ethyl ketone	78–93–3
Methyl iodide	74–88–4
Methyl isobutyl ketone	108–10–1
Methyl methacrylate	80–62–6
2-Methylpentane	107–83–5
1-Methyl-2-pyrrolidone	872–50–4
Methyl tert-butyl ether.	
Naphthalene	91–20–3
Nitrobenzene	98–95–3
1-Nonene	27215–95–8
Nonyl alcohol	143–08–8
Nonylphenol	25154–52–3
Nonylphenol, ethoxylated	9016–45–9
Octene	25377–83–7
Oil-soluble petroleum sulfonate, calcium salt.	
Oil-soluble petroleum sulfonate, sodium salt.	
Pentaerythritol	115–77–5
n-Pentane	109–66–0
3-Pentenenitrile	4635–87–4
Pentenes, mixed	109–67–1
Perchloroethylene	127–18–4
Phenol	108–95–2
1-Phenylethyl hydroperoxide	3071–32–7
Phenylpropane	103–65–1
Phosgene	75–44–5
Phthalic anhydride	85–44–9
Propane	74–98–6
Propionaldehyde	123–38–6
Propionic acid	79–09–4
Propyl alcohol	71–23–8
Propylene	115–07–1
Propylene chlorohydrin	78–89–7
Propylene glycol	57–55–6
Propylene oxide	75–56–9
Sodium cyanide	143–33–9
Sorbitol	50–70–4
Styrene	100–42–5
Terephthalic acid	100–21–0
1,1,2,2-Tetrachloroethane	79–34–5
Tetraethyl lead	78–00–2
Tetrahydrofuran	109–99–9
Tetra (methyl-ethyl) lead.	
Tetramethyl lead	75–74–1
Toluene	108–88–3
Toluene-2,4-diamine	95–80–7
Toluene-2,4-(and, 2,6)-diisocyanate (80/20 mixture)	26471–62–5
Tribromomethane	75–25–2
1,1,1-Trichloroethane	71–55–6
1,1,2-Trichloroethane	79–00–5
Trichloroethylene	79–01–6
Trichlorofluoromethane	75–69–4
1,1,2-Trichloro-1,2,2-trifluoroethane	76–13–1
Triethanolamine	102–71–6
Triethylene glycol	112–27–6
Vinyl acetate	108–05–4
Vinyl chloride	75–01–4
Vinylidene chloride	75–35–4
m-Xylene	108–38–3
o-Xylene	95–47–6
p-Xylene	106–42–3
Xylenes (mixed)	1330–20–7
m-Xylenol	576–26–1

*CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

[55 FR 26942, June 29, 1990, as amended at 60 FR 58237, 58238, Nov. 27, 1995]

§ 60.668 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under §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: §60.663(e).

Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants

SOURCE: 51 FR 31337, Aug. 1, 1985, unless otherwise noted.

§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; and stand-alone screening operations at plants without crushers or grinding mills.

(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in § 60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in § 60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in § 60.671, having the same function as the existing facility, the new facility is exempt from the provisions of §§ 60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in § 60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§ 60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that apply and those that do not apply to owners and operators of affected facilities subject to this subpart.

TABLE 1—APPLICABILITY OF SUBPART A TO SUBPART OOO

Subpart A reference	Applies to Subpart OOO	Comment
60.1, Applicability	Yes.	
60.2, Definitions	Yes.	
60.3, Units and abbreviations	Yes.	
60.4, Address:		
(a)	Yes.	
(b)	Yes.	
60.5, Determination of construction or modification.	Yes.	
60.6, Review of plans	Yes.	
60.7, Notification and recordkeeping	Yes	Except in (a)(2) report of anticipated date of initial startup is not required (§ 60.676(h)).
60.8, Performance tests	Yes	Except in (d), after 30 days notice for an initially scheduled performance test, any rescheduled performance test requires 7 days notice, not 30 days (§ 60.675(g)).
60.9, Availability of information	Yes.	
60.10, State authority	Yes.	
60.11, Compliance with standards and maintenance requirements.	Yes	Except in (b) under certain conditions (§§ 60.675 (c)(3) and (c)(4)), Method 9 observation may be reduced from 3 hours to 1 hour. Some affected facilities exempted from Method 9 tests (§ 60.675(h)).
60.12, Circumvention	Yes.	
60.13, Monitoring requirements	Yes.	
60.14, Modification	Yes.	
60.15, Reconstruction	Yes.	
60.16, Priority list	Yes.	
60.17, Incorporations by reference	Yes.	
60.18, General control device	No	Flares will not be used to comply with the emission limits.
60.19, General notification and reporting requirements.	Yes.	

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§ 60.671 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.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

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

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations 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 process operations at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in § 60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(a) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(b) Sand and Gravel.

(c) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(d) Rock Salt.

(e) Gypsum.

(f) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(g) Pumice.

(h) Gilsonite.

(i) Talc and Pyrophyllite.

(j) Boron, including Borax, Kernite, and Colemanite.

(k) Barite.

(l) Fluorospar.

(m) Feldspar.

(n) Diatomite.

(o) Perlite.

(p) Vermiculite.

(q) Mica.

(r) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland

cement plants, or any other facility processing nonmetallic minerals except as provided in § 60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Screening operation 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).

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

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

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997]

§ 60.672 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 any transfer point on belt conveyors or from any other affected facility any stack emissions which:

(1) Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf); and

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of § 60.676 (c), (d), and (e).

(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 as required under § 60.11 of this part, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in

paragraphs (c), (d), and (e) of this section.

(c) 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 as required under § 60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a), (b) and (c) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) No owner or operator shall cause to be discharged into the atmosphere from any building enclosing any transfer point on a conveyor belt or any other affected facility any visible fugitive emissions except emissions from a vent as defined in § 60.671.

(2) No owner or operator shall cause to be discharged into the atmosphere from any vent of any building enclosing any transfer point on a conveyor belt or any other affected facility emissions which exceed the stack emissions limits in paragraph (a) of this section.

(f) 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 as required under § 60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any baghouse that controls emissions from only an individual, enclosed storage bin, stack emissions which exhibit greater than 7 percent opacity.

(g) Owners or operators of multiple storage bins with combined stack emissions shall comply with the emission limits in paragraph (a)(1) and (a)(2) of this section.

(h) 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 shall cause to be discharged into the atmosphere any visible emissions from:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operations, bucket elevators, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[51 FR 31337, Aug. 1, 1985, as amended at 62 FR 31359, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

§ 60.673 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; and elevator buckets.

(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) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.674 Monitoring of operations.

The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(a) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. 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) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. 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 an annual basis in accordance with manufacturer's instructions.

§ 60.675 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). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.672(a) as follows:

(1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

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

(c)(1) In determining compliance with the particulate matter standards in § 60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in § 60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under § 60.672(f) of this subpart, using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).

(3) When determining compliance with the fugitive emissions standard for any affected facility described under § 60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under § 60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(d) In determining compliance with § 60.672(e), the owner or operator shall use Method 22 to determine fugitive emissions. The performance test shall be conducted while all affected facilities inside the building are operating. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a) and (b) during each particulate matter run and shall determine the averages.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

(h) Initial Method 9 performance tests under §60.11 of this part and §60.675 of this subpart are not required for:

(1) Wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to, but not including the next crusher, grinding mill or storage bin.

(2) Screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, that process saturated materials up to the first crusher, grinding mill, or storage bin in the production line.

[54 FR 6680, Feb. 14, 1989, as amended at 62 FR 31360, June 9, 1997]

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b) [Reserved]

(c) During the initial performance test of a wet scrubber, and daily 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.

(d) 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) and liquid flow rate differ by more than ±30 percent from the averaged determined during the most recent performance test.

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

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance

tests conducted to demonstrate compliance with the standards set forth in § 60.672 of this subpart, including reports of opacity observations made using Method 9 to demonstrate compliance with § 60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with § 60.672(e).

(g) The owner or operator of any screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to § 60.672(h) and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in § 60.672(b) and the emission test requirements of § 60.11 and this subpart. Likewise a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in § 60.672(h).

(h) The subpart A requirement under § 60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) 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 Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

[51 FR 31337, Aug. 1, 1985, as amended at 54 FR 6680, Feb. 14, 1989; 62 FR 31360, June 9, 1997; 65 FR 61778, Oct. 17, 2000]

Subpart PPP—Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants

SOURCE: 50 FR 7699, Feb. 25, 1985, unless otherwise noted.

§ 60.680 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each rotary spin wool fiberglass insulation manufacturing line.

(b) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after February 7, 1984, is subject to the requirements of this subpart.

§ 60.681 Definitions.

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

Glass pull rate means the mass of molten glass utilized in the manufacture of wool fiberglass insulation at a single manufacturing line in a specified time period.

Manufacturing line means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally "set;" and the cooling section, where the mat is cooled.

Rotary spin means a process used to produce wool fiberglass insulation by

APPENDIX D

40 CFR 63 Subpart AAAAA,
National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

Subpart AAAAA—National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

SOURCE: 69 FR 416, Jan. 5, 2004, unless otherwise noted.

WHAT THIS SUBPART COVERS

§ 63.7080 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for lime manufacturing plants. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§ 63.7081 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a lime manufacturing plant (LMP) that is a major source, or that is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions, unless the LMP is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, beet sugar manufacturing plant, or only processes sludge containing calcium carbonate from water softening processes.

(1) An LMP is an establishment engaged in the manufacture of lime product (calcium oxide, calcium oxide with magnesium oxide, or dead burned dolomite) by calcination of limestone, dolomite, shells or other calcareous substances.

(2) A major source of HAP is a plant site that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year from all emission sources at the plant site.

(b) [Reserved]

§ 63.7082 What parts of my plant does this subpart cover?

(a) This subpart applies to each existing or new lime kiln(s) and their associated cooler(s), and processed stone handling (PSH) operations system(s) located at an LMP that is a major source.

(b) A new lime kiln is a lime kiln, and (if applicable) its associated lime cooler, for which construction or reconstruction began after December 20, 2002, if you met the applicability criteria in § 63.7081 at the time you began construction or reconstruction.

(c) A new PSH operations system is the equipment in paragraph (g) of this section, for which construction or reconstruction began after December 20, 2002, if you met the applicability criteria in § 63.7081 at the time you began construction or reconstruction.

(d) A lime kiln or PSH operations system is reconstructed if it meets the criteria for reconstruction defined in § 63.2.

(e) An existing lime kiln is any lime kiln, and (if applicable) its associated lime cooler, that does not meet the definition of a new kiln of paragraph (b) of this section.

(f) An existing PSH operations system is any PHS operations system that does not meet the definition of a new PSH operations system in paragraph (c) of this section.

(g) A PSH operations system includes all equipment associated with PSH operations beginning at the processed stone storage bin(s) or open storage pile(s) and ending where the processed stone is fed into the kiln. It includes man-made processed stone storage bins (but not open processed stone storage piles), conveying system transfer points, bulk loading or unloading systems, screening operations, surge bins, bucket elevators, and belt conveyors. No other materials processing operations are subject to this subpart.

(h) Nuisance dust collectors on lime coolers are part of the lime materials processing operations and are not covered by this subpart.

(i) Lime hydrators are not subject to this subpart.

(j) Open material storage piles are not subject to this subpart.

§ 63.7083 When do I have to comply with this subpart?

(a) If you have a new affected source, you must comply with this subpart according to paragraphs (a)(1) and (2) of this section.

(1) If you start up your affected source before January 5, 2004, you must

comply with the emission limitations no later than January 5, 2004, and you must have completed all applicable performance tests no later than July 5, 2004.

(2) If you start up your affected source after January 5, 2004, then you must comply with the emission limitations for new affected sources upon startup of your affected source and you must have completed all applicable performance tests no later than 180 days after startup.

(b) If you have an existing affected source, you must comply with the applicable emission limitations for the existing affected source, and you must have completed all applicable performance tests no later than January 5, 2007.

(c) If you have an LMP that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the deadlines specified in paragraphs (c)(1) and (2) of this section apply.

(1) New affected sources at your LMP you must be in compliance with this subpart upon startup.

(2) Existing affected sources at your LMP must be in compliance with this subpart within 3 years after your source becomes a major source of HAP.

(d) You must meet the notification requirements in §63.7130 according to the schedule in §63.7130 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limitations in this subpart.

EMISSION LIMITATIONS

§ 63.7090 What emission limitations must I meet?

(a) You must meet each emission limit in Table 1 to this subpart that applies to you.

(b) You must meet each operating limit in Table 2 to this subpart that applies to you.

GENERAL COMPLIANCE REQUIREMENTS

§ 63.7100 What are my general requirements for complying with this subpart?

(a) After your initial compliance date, you must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must be in compliance with the opacity and visible emission (VE) limits in this subpart during the times specified in §63.6(h)(1).

(c) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(d) You must prepare and implement for each LMP, a written operations, maintenance, and monitoring (OM&M) plan. You must submit the plan to the applicable permitting authority for review and approval as part of the application for a 40 CFR part 70 or 40 CFR part 71 permit. Any subsequent changes to the plan must be submitted to the applicable permitting authority for review and approval. Pending approval by the applicable permitting authority of an initial or amended plan, you must comply with the provisions of the submitted plan. Each plan must contain the following information:

(1) Process and control device parameters to be monitored to determine compliance, along with established operating limits or ranges, as applicable, for each emission unit.

(2) A monitoring schedule for each emission unit.

(3) Procedures for the proper operation and maintenance of each emission unit and each air pollution control device used to meet the applicable emission limitations and operating limits in Tables 1 and 2 to this subpart, respectively.

(4) Procedures for the proper installation, operation, and maintenance of monitoring devices or systems used to determine compliance, including:

(i) Calibration and certification of accuracy of each monitoring device;

(ii) Performance and equipment specifications for the sample interface, parametric signal analyzer, and the data collection and reduction systems;

(iii) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (3), and (4)(ii); and

(iv) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d).

(5) Procedures for monitoring process and control device parameters.

(6) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the operating limits specified in Table 2 to this subpart, including:

(i) Procedures to determine and record the cause of a deviation or excursion, and the time the deviation or excursion began and ended; and

(ii) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time and date the corrective action was completed.

(7) A maintenance schedule for each emission unit and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(e) You must develop a written start-up, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

[69 FR 416, Jan. 5, 2004, as amended at 71 FR 20467, Apr. 20, 2006]

TESTING AND INITIAL COMPLIANCE REQUIREMENTS

§ 63.7110 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) If you have an existing affected source, you must complete all applicable performance tests within January 5, 2007, according to the provisions in §§ 63.7(a)(2) and 63.7114.

(b) If you have a new affected source, and commenced construction or reconstruction between December 20, 2002, and January 5, 2004, you must demonstrate initial compliance with either the proposed emission limitation or the promulgated emission limitation no later than 180 calendar days after January 5, 2004 or within 180 calendar days after startup of the source, whichever is later, according to §§ 63.7(a)(2)(ix) and 63.7114.

(c) If you commenced construction or reconstruction between December 20, 2002, and January 5, 2004, and you chose to comply with the proposed emission limitation when demonstrating initial compliance, you must conduct a demonstration of compliance with the promulgated emission limitation within January 5, 2007 or after startup of the source, whichever is later, according to §§ 63.7(a)(2)(ix) and 63.7114.

(d) For each initial compliance requirement in Table 3 to this subpart that applies to you where the monitoring averaging period is 3 hours, the 3-hour period for demonstrating continuous compliance for emission units within existing affected sources at LMP begins at 12:01 a.m. on the compliance date for existing affected sources, that is, the day following completion of the initial compliance demonstration, and ends at 3:01 a.m. on the same day.

(e) For each initial compliance requirement in Table 3 to this subpart that applies to you where the monitoring averaging period is 3 hours, the 3-hour period for demonstrating continuous compliance for emission units within new or reconstructed affected sources at LMP begins at 12:01 a.m. on the day following completion of the initial compliance demonstration, as required in paragraphs (b) and (c) of this section, and ends at 3:01 a.m. on the same day.

§ 63.7111 When must I conduct subsequent performance tests?

You must conduct a performance test within 5 years following the initial performance test and within 5 years following each subsequent performance test thereafter.

§ 63.7112 What performance tests, design evaluations, and other procedures must I use?

(a) You must conduct each performance test in Table 4 to this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in § 63.7(e)(1) and under the specific conditions specified in Table 4 to this subpart.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(d) Except for opacity and VE observations, you must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(e) The emission rate of particulate matter (PM) from each lime kiln (and each lime cooler if there is a separate exhaust to the atmosphere from the lime cooler) must be computed for each run using Equation 1 of this section:

$$E = (C_k Q_k + C_c Q_c)/PK \qquad \text{(Eq. 1)}$$

Where:

E = Emission rate of PM, pounds per ton (lb/ton) of stone feed.

C_k = Concentration of PM in the kiln effluent, grain/dry standard cubic feet (gr/dscf).

Q_k = Volumetric flow rate of kiln effluent gas, dry standard cubic feet per hour (dscf/hr).

C_c = Concentration of PM in the cooler effluent, grain/dscf. This value is zero if there is not a separate cooler exhaust to the atmosphere.

Q_c = Volumetric flow rate of cooler effluent gas, dscf/hr. This value is zero if there is not a separate cooler exhaust to the atmosphere.

P = Stone feed rate, tons per hour (ton/hr).

K = Conversion factor, 7000 grains per pound (grains/lb).

(f)(1) If you choose to meet a weighted average emission limit as specified in item 4 of Table 1 to this subpart, you must calculate a combined particulate emission rate from all kilns and coolers within your LMP using Equation 2 of this section:

$$E_T = \sum_{i=1}^{n} E_i P_i / \sum_{i=1}^{n} P_i \qquad \text{(Eq. 2)}$$

Where:

E_T = Emission rate of PM from all kilns and coolers, lb/ton of stone feed.

E_i = Emission rate of PM from kiln i, or from kiln/cooler combination i, lb/ton of stone feed.

P_i = Stone feed rate to kiln i, ton/hr.

n = Number of kilns you wish to include in averaging.

(2) You do not have to include every kiln in this calculation, only include kilns you wish to average. Kilns that have a PM emission limit of 0.60 lb/tsf are ineligible for any averaging.

(g) The weighted average PM emission limit from all kilns and coolers for which you are averaging must be calculated using Equation 3 of this section:

$$E_{TN} = \sum_{j=1}^{m} E_j P_j / \sum_{j=1}^{m} P_j \qquad \text{(Eq. 3)}$$

Where:

E_{TN} = Weighted average PM emission limit for all kilns and coolers being included in averaging at the LMP, lb/ton of stone feed.

E_j = PM emission limit (0.10 or 0.12) for kiln j, or for kiln/cooler combination j, lb/ton of stone feed.

P_j = Stone feed rate to kiln j, ton/hr.

m = Number of kilns and kiln/cooler combinations you are averaging at your LMP. You must include the same kilns in the calculation of E_T and E_{TN}. Kilns that have a PM emission limit of 0.60 lb/tsf are ineligible for any averaging.

(h) Performance test results must be documented in complete test reports that contain the information required by paragraphs (h)(1) through (10) of this section, as well as all other relevant information. The plan to be followed during testing must be made available to the Administrator at least 60 days prior to testing.

(1) A brief description of the process and the air pollution control system;

(2) Sampling location description(s);

(3) A description of sampling and analytical procedures and any modifications to standard procedures;

(4) Test results, including opacity;

(5) Quality assurance procedures and results;

(6) Records of operating conditions during the test, preparation of standards, and calibration procedures;

(7) Raw data sheets for field sampling and field and laboratory analyses;

(8) Documentation of calculations;

(9) All data recorded and used to establish operating limits; and

(10) Any other information required by the test method.

(i) [Reserved]

(j) You must establish any applicable 3-hour block average operating limit indicated in Table 2 to this subpart according to the applicable requirements in Table 3 to this subpart and paragraphs (j)(1) through (4) of this section.

(1) Continuously record the parameter during the PM performance test and include the parameter record(s) in the performance test report.

(2) Determine the average parameter value for each 15-minute period of each test run.

(3) Calculate the test run average for the parameter by taking the average of all the 15-minute parameter values for the run.

(4) Calculate the 3-hour operating limit by taking the average of the three test run averages.

(k) For each building enclosing any PSH operations that is subject to a VE limit, you must conduct a VE check according to item 18 in Table 4 to this subpart, and in accordance with paragraphs (k)(1) through (3) of this section.

(1) Conduct visual inspections that consist of a visual survey of the building over the test period to identify if there are VE, other than condensed water vapor.

(2) Select a position at least 15 but not more 1,320 feet from each side of the building with the sun or other light source generally at your back.

(3) The observer conducting the VE checks need not be certified to conduct EPA Method 9 in appendix A to part 60 of this chapter, but must meet the training requirements as described in EPA Method 22 in appendix A to part 60 of this chapter.

(l) When determining compliance with the opacity standards for fugitive emissions from PSH operations in item 7 of Table 1 to this subpart, you must conduct EPA Method 9 in appendix A to part 60 of this chapter according to item 17 in Table 4 to this subpart, and in accordance with paragraphs (l)(1) through (3) of this section.

(1) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(2) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (*e.g.*, road dust). The required observer position relative to the sun must be followed.

(3) If you use wet dust suppression to control PM from PSH operations, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered VE. When a water mist of this nature is present, you must observe emissions at a point in the plume where the mist is no longer visible.

§ 63.7113 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to your OM&M plan required by § 63.7100(d) and paragraphs (a)(1) through (5) of this section, and you must install, operate, and maintain each continuous opacity monitoring system (COMS) as required by paragraph (g) of this section

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period.

(2) To calculate a valid hourly value, you must have at least four equally spaced data values (or at least two, if that condition is included to allow for periodic calibration checks) for that hour from a CPMS that is not out of control according your OM&M plan, and use all valid data.

(3) To calculate the average for each 3-hour block averaging period, you must use all valid data, and you must have at least 66 percent of the hourly averages for that period using only hourly average values that are based on valid data (*i.e.*, not from out-of-control periods).

(4) You must conduct a performance evaluation of each CPMS in accordance with your OM&M plan.

(5) You must continuously operate and maintain the CPMS according to the OM&M plan, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and (b)(1) through (4) of this section.

(1) Use a flow sensor with a minimum tolerance of 2 percent of the flow rate.

(2) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(3) Conduct a flow sensor calibration check at least semiannually.

(4) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to as possible a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum tolerance of 0.5 inch of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(4) Check pressure tap pluggage daily.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(7) At least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage.

(d) For each bag leak detection system (BLDS), you must meet any applicable requirements in paragraphs (a)(1) through (5) and (d)(1) through (8) of this section.

(1) The BLDS must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The sensor on the BLDS must provide output of relative PM emissions.

(3) The BLDS must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level.

(4) The alarm must be located in an area where appropriate plant personnel will be able to hear it.

(5) For a positive-pressure fabric filter (FF), each compartment or cell must have a bag leak detector (BLD). For a negative-pressure or induced-air FF, the BLD must be installed downstream of the FF. If multiple BLD are required (for either type of FF), the detectors may share the system instrumentation and alarm.

(6) Bag leak detection systems must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the OM&M plan.

(7) At a minimum, initial adjustment of the system must consist of establishing the baseline output in both of the following ways:

(i) Adjust the range and the averaging period of the device.

(ii) Establish the alarm set points and the alarm delay time.

(8) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the OM&M plan required by §63.7100(d). In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official, as defined in §63.2, certifies in writing to the Administrator that the FF has been inspected and found to be in good operating condition.

(e) For each PM detector, you must meet any applicable requirements in paragraphs (a)(1) through (5) and (e)(1) through (8) of this section.

(1) The PM detector must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The sensor on the PM detector must provide output of relative PM emissions.

(3) The PM detector must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level.

(4) The alarm must be located in an area where appropriate plant personnel will be able to hear it.

(5) For a positive-pressure electrostatic precipitator (ESP), each compartment must have a PM detector. For a negative-pressure or induced-air ESP, the PM detector must be installed downstream of the ESP. If multiple PM detectors are required (for either type of ESP), the detectors may share the system instrumentation and alarm.

(6) Particulate matter detectors must be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations. Standard operating procedures must be incorporated into the OM&M plan.

(7) At a minimum, initial adjustment of the system must consist of establishing the baseline output in both of the following ways:

(i) Adjust the range and the averaging period of the device.

(ii) Establish the alarm set points and the alarm delay time.

(8) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the OM&M plan required by § 63.7100(d). In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official as defined in § 63.2 certifies in writing to the Administrator that the ESP has been inspected and found to be in good operating condition.

(f) For each emission unit equipped with an add-on air pollution control device, you must inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in item 6 of Table 2 to this subpart and record the results of each inspection.

(g) For each COMS used to monitor an add-on air pollution control device, you must meet the requirements in paragraphs (g)(1) and (2) of this section.

(1) Install the COMS at the outlet of the control device.

(2) Install, maintain, calibrate, and operate the COMS as required by 40 CFR part 63, subpart A, General Provisions and according to Performance Specification (PS)–1 of appendix B to part 60 of this chapter. Facilities that operate COMS installed on or before February 6, 2001, may continue to meet the requirements in effect at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

§ 63.7114 How do I demonstrate initial compliance with the emission limitations standard?

(a) You must demonstrate initial compliance with each emission limit in Table 1 to this subpart that applies to you, according to Table 3 to this subpart. For existing lime kilns and their associated coolers, you may perform VE measurements in accordance with EPA Method 9 of appendix A to part 60 in lieu of installing a COMS or PM detector if any of the conditions in paragraphs (a)(1) through (3) of this section exist:

(1) You use a FF for PM control, and the FF is under positive pressure and has multiple stacks; or

(2) The control device exhausts through a monovent; or

(3) The installation of a COMS in accordance with PS–1 of appendix B to part 60 is infeasible.

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.7112(j) and Table 4 to this subpart. Alternative parameters may be monitored if approval is obtained according to the procedures in § 63.8(f)

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.7130(e).

CONTINUOUS COMPLIANCE REQUIREMENTS

§ 63.7120 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required quality assurance or control activities (including, as applicable, calibration checks and required zero adjustments), and except for PSH operations subject to monthly VE testing, you must monitor continuously (or collect data at all required intervals) at all times that the emission unit is operating.

(c) Data recorded during the conditions described in paragraphs (c)(1) through (3) of this section may not be used either in data averages or calculations of emission or operating limits;

or in fulfilling a minimum data availability requirement. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(1) Monitoring system breakdowns, repairs, preventive maintenance, calibration checks, and zero (low-level) and high-level adjustments;

(2) Periods of non-operation of the process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies; and

(3) Start-ups, shutdowns, and malfunctions.

§ 63.7121 How do I demonstrate continuous compliance with the emission limitations standard?

(a) You must demonstrate continuous compliance with each emission limitation in Tables 1 and 2 to this subpart that applies to you according to the methods specified in Tables 5 and 6 to this subpart.

(b) You must report each instance in which you did not meet each operating limit, opacity limit, and VE limit in Tables 2 and 6 to this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.7131.

(c) [Reserved]

(d) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with § 63.6(e)(1). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

(e) For each PSH operation subject to an opacity limit as specified in Table 1 to this subpart, and any vents from buildings subject to an opacity limit, you must conduct a VE check according to item 1 in Table 6 to this subpart, and as follows:

(1) Conduct visual inspections that consist of a visual survey of each stack or process emission point over the test period to identify if there are VE, other than condensed water vapor.

(2) Select a position at least 15 but not more 1,320 feet from the affected emission point with the sun or other light source generally at your back.

(3) The observer conducting the VE checks need not be certified to conduct EPA Method 9 in appendix A to part 60 of this chapter, but must meet the training requirements as described in EPA Method 22 of appendix A to part 60 of this chapter.

(f) For existing lime kilns and their associated coolers, you may perform VE measurements in accordance with EPA Method 9 of appendix A to part 60 in lieu of installing a COMS or PM detector if any of the conditions in paragraphs (f)(1) or (3) of this section exist:

(1) You use a FF for PM control, and the FF is under positive pressure and has multiple stacks; or

(2) The control device exhausts through a monovent; or

(3) The installation of a COMS in accordance with PS-1 of appendix B to part 60 is infeasible.

[69 FR 416, Jan. 5, 2004, as amended at 71 FR 20467, Apr. 20, 2006]

NOTIFICATION, REPORTS, AND RECORDS

§ 63.7130 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (5); 63.7(b) and (c); 63.8(e); (f)(4) and (6); and 63.9 (a) through (j) that apply to you, by the dates specified.

(b) As specified in § 63.9(b)(2), if you start up your affected source before January 5, 2004, you must submit an initial notification not later than 120 calendar days after January 5, 2004.

(c) If you startup your new or reconstructed affected source on or after January 5, 2004, you must submit an initial notification not later than 120 calendar days after you start up your affected source.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin, as required in § 63.7(b)(1).

(e) If you are required to conduct a performance test, design evaluation, opacity observation, VE observation, or other initial compliance demonstration as specified in Table 3 or 4 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 3 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

§63.7131 What reports must I submit and when?

(a) You must submit each report listed in Table 7 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date specified in Table 7 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section:

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7083 and ending on June 30 or December 31, whichever date is the first date following the end of the first half calendar year after the compliance date that is specified for your source in §63.7083.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first half calendar year after the compliance date that is specified for your affected source in §63.7083.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, if the permitting authority has established dates for submitting semiannual reports pursuant to §§70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter, you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates specified in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information specified in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from any emission limitations (emission limit, operating limit, opacity limit, and VE limit) that apply to you, the compliance report must include a statement that there were no deviations from the emission limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring systems (CMS) were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS were out-of-control during the reporting period.

(d) For each deviation from an emission limitation (emission limit, operating limit, opacity limit, and VE limit) that occurs at an affected source

where you are not using a CMS to comply with the emission limitations in this subpart, the compliance report must contain the information specified in paragraphs (c)(1) through (4) and (d)(1) and (2) of this section. The deviations must be reported in accordance with the requirements in § 63.10(d).

(1) The total operating time of each emission unit during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission limitation (emission limit, operating limit, opacity limit, and VE limit) occurring at an affected source where you are using a CMS to comply with the emission limitation in this subpart, you must include the information specified in paragraphs (c)(1) through (4) and (e)(1) through (11) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time and duration that each CMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviations during the reporting period and the total duration as a percent of the total affected source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total emission unit operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each facility that has obtained a title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by §§ 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter. If you submit a compliance report specified in Table 7 to this subpart along with, or as part of, the semiannual monitoring report required by §§ 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A) of this chapter, and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report shall not otherwise affect any obligation you may have to report deviations from permit requirements to the permit authority.

§ 63.7132 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, performance evaluations, and opacity and VE observations as required in § 63.10(b)(2)(viii).

(b) You must keep the records in § 63.6(h)(6) for VE observations.

(c) You must keep the records required by Tables 5 and 6 to this subpart to show continuous compliance with each emission limitation that applies to you.

(d) You must keep the records which document the basis for the initial applicability determination as required under § 63.7081.

§ 63.7133 In what form and for how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

OTHER REQUIREMENTS AND INFORMATION

§ 63.7140 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you. When there is overlap between subpart A and subpart AAAAA, as indicated in the "Explanations" column in Table 8, subpart AAAAA takes precedence.

§ 63.7141 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. EPA, or by a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are as specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of alternatives to the non-opacity emission limitations in § 63.7090(a).

(2) Approval of alternative opacity emission limitations in § 63.7090(a).

(3) Approval of alternatives to the operating limits in § 63.7090(b).

(4) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(5) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(6) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.7142 What are the requirements for claiming area source status?

(a) If you wish to claim that your LMP is an area source, you must measure the emissions of hydrogen chloride from all lime kilns, except as provided in paragraph (c) of this section, at your plant using either:

(1) EPA Method 320 of appendix A to this part,

(2) EPA Method 321 of appendix A to this part, or

(3) ASTM Method D6735–01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method, provided that the provisions in paragraphs (a)(3)(i) through (vi) of this section are followed.

(i) A test must include three or more runs in which a pair of samples is obtained simultaneously for each run according to section 11.2.6 of ASTM Method D6735–01.

(ii) You must calculate the test run standard deviation of each set of paired samples to quantify data precision, according to Equation 1 of this section:

$$RSD_a = (100)\ \text{Absolute Value}\left[\frac{C1_a - C2_a}{C1_a + C2_a}\right] \quad \text{(Eq. 1)}$$

Where:

RSD_a = The test run relative standard deviation of sample pair a, percent.

$C1_a$ and $C2_a$ = The HCl concentrations, milligram/dry standard cubic meter(mg/dscm), from the paired samples.

(iii) You must calculate the test average relative standard deviation according to Equation 2 of this section:

$$RSD_{TA} = \frac{\sum_{a=1}^{p} RSD_a}{p} \quad \text{(Eq. 2)}$$

Where:

RSD_{TA} = The test average relative standard deviation, percent.

RSD_a = The test run relative standard deviation for sample pair a.

p = The number of test runs, ≥3.

(iv) If RSD^{TA} is greater than 20 percent, the data are invalid and the test must be repeated.

(v) The post-test analyte spike procedure of section 11.2.7 of ASTM Method D6735–01 is conducted, and the percent recovery is calculated according to section 12.6 of ASTM Method D6735–01.

(vi) If the percent recovery is between 70 percent and 130 percent, inclusive, the test is valid. If the percent recovery is outside of this range, the data are considered invalid, and the test must be repeated.

(b) If you conduct tests to determine the rates of emission of specific organic HAP from lime kilns at LMP for use in applicability determinations under §63.7081, you may use either:

(1) Method 320 of appendix A to this part, or

(2) Method 18 of appendix A to part 60 of this chapter, or

(3) ASTM D6420–99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (GC/MS), provided that the provisions of paragraphs (b)(3)(i) through (iv) of this section are followed:

(i) The target compound(s) are those listed in section 1.1 of ASTM D6420–99;

(ii) The target concentration is between 150 parts per billion by volume and 100 parts per million by volume;

(iii) For target compound(s) not listed in Table 1.1 of ASTM D6420–99, but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in section 10.5.3 of ASTM D6420–99, is conducted, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water soluble; and

(iv) For target compound(s) not listed in Table 1.1 of ASTM D6420–99, and not amenable to detection by mass spectrometry, ASTM D6420–99 may not be used.

(c) It is left to the discretion of the permitting authority whether or not idled kilns must be tested for (HCl) to claim area source status. If the facility has kilns that use common feed materials and fuel, are essentially identical in design, and use essentially identical emission controls, the permitting authority may also determine if one kiln can be tested, and the HCl emissions for the other essentially identical kilns be estimated from that test.

§63.7143 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section as follows:

Bag leak detector system (BLDS) is a type of PM detector used on FF to identify an increase in PM emissions resulting from a broken filter bag or other malfunction and sound an alarm.

Belt conveyor means a conveying device that transports *processed stone* from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a *processed stone* conveying device consisting of a head and foot assembly which supports and drives an endless single or double

strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport PM to a control device.

Control device means the air pollution control equipment used to reduce PM emissions released to the atmosphere from one or more process operations at an LMP.

Conveying system means a device for transporting *processed stone* from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to feeders, belt conveyors, bucket elevators and pneumatic systems.

Deviation means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation (including any operating limit);

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is allowed by this subpart.

Emission limitation means any emission limit, opacity limit, operating limit, or VE limit.

Emission unit means a lime kiln, lime cooler, storage bin, conveying system transfer point, bulk loading or unloading operation, bucket elevator or belt conveyor at an LMP.

Fugitive emission means PM that is not collected by a capture system.

Hydrator means the device used to produce hydrated lime or calcium hydroxide via the chemical reaction of the lime product with water.

Lime cooler means the device external to the lime kiln (or part of the lime kiln itself) used to reduce the temperature of the lime produced by the kiln.

Lime kiln means the device, including any associated preheater, used to produce a lime product from stone feed by calcination. Kiln types include, but are not limited to, rotary kiln, vertical kiln, rotary hearth kiln, double-shaft vertical kiln, and fluidized bed kiln.

Lime manufacturing plant (LMP) means any plant which uses a lime kiln to produce lime product from limestone or other calcareous material by calcination.

Lime product means the product of the lime kiln calcination process including, calcitic lime, dolomitic lime, and dead-burned dolomite.

Limestone means the material comprised primarily of calcium carbonate (referred to sometimes as calcitic or high calcium limestone), magnesium carbonate, and/or the double carbonate of both calcium and magnesium (referred to sometimes as dolomitic limestone or dolomite).

Monovent means an exhaust configuration of a building or emission control device (*e.g.*, positive pressure FF) that extends the length of the structure and has a width very small in relation to its length (*i.e.*, length-to-width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

Particulate matter (PM) detector means a system that is continuously capable of monitoring PM loading in the exhaust of FF or ESP in order to detect bag leaks, upset conditions, or control device malfunctions and sounds an alarm at a preset level. A PM detector system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effects to continuously monitor relative particulate loadings. A BLDS is a type of PM detector.

Positive pressure FF or ESP means a FF or ESP with the fan(s) on the upstream side of the control device.

Process stone handling operations means the equipment and transfer points between the equipment used to transport *processed stone,* and includes, storage bins, conveying system transfer points, bulk loading or unloading

systems, screening operations, bucket elevators, and belt conveyors.

Processed stone means limestone or other calcareous material that has been processed to a size suitable for feeding into a lime kiln.

Screening operation 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 PM that is released to the atmosphere from a capture system or control device.

Storage bin means a manmade enclosure for storage (including surge bins) of *processed stone* prior to the lime kiln.

Transfer point means a point in a conveying operation where the material is transferred to or from a belt conveyor.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying PM emissions from one or more emission units.

TABLE 1 TO SUBPART AAAAA OF PART 63—EMISSION LIMITS

As required in §63.7090(a), you must meet each emission limit in the following table that applies to you.

For . . .	You must meet the following emission limit
1. Existing lime kilns and their associated lime coolers that did not have a wet scrubber installed and operating prior to January 5, 2004.	PM emissions must not exceed 0.12 pounds per ton of stone feed (lb/tsf).
2. Existing lime kilns and their associated lime coolers that have a wet scrubber, where the scrubber itself was installed and operating prior to January 5, 2004.	PM emissions must not exceed 0.60 lb/tsf. If at any time after January 5, 2004 the kiln changes to a dry control system, then the PM emission limit in item 1 of this Table 1 applies, and the kiln is hereafter ineligible for the PM emission limit in item 2 of this Table 1 regardless of the method of PM control.
3. New lime kilns and their associated lime coolers	PM emissions must not exceed 0.10 lb/tsf.
4. All existing and new lime kilns and their associated coolers at your LMP, and you choose to average PM emissions, except that any kiln that is allowed to meet the 0.60 lb/tsf PM emission limit is ineligible for averaging.	Weighted average PM emissions calculated according to Eq. 2 in §63.7112 must not exceed 0.12 lb/tsf (if you are averaging only existing kilns) or 0.10 lb/tsf (if you are averaging only new kilns). If you are averaging existing and new kilns, your weighted average PM emissions must not exceed the weighted average emission limit calculated according to Eq. 3 in §63.7112, except that no new kiln and its associated cooler considered alone may exceed an average PM emissions limit of 0.10 lb/tsf.
5. Stack emissions from all PSH operations at a new or existing affected source.	PM emissions must not exceed 0.05 grams per dry standard cubic meter (g/dscm).
6. Stack emissions from all PSH operations at a new or existing affected source, unless the stack emissions are discharged through a wet scrubber control device.	Emissions must not exceed 7 percent opacity.
7. Fugitive emissions from all PSH operations at a new or existing affected source, except as provided by item 8 of this Table 1.	Emissions must not exceed 10 percent opacity.
8. All PSH operations at a new or existing affected source enclosed in a building.	All of the individually affected PSH operations must comply with the applicable PM and opacity emission limitations in items 5 through 7 of this Table 1, or the building must comply with the following: There must be no VE from the building, except from a vent; and vent emissions must not exceed the stack emissions limitations in items 5 and 6 of this Table 1.
9. Each FF that controls emissions from only an individual, enclosed storage bin.	Emissions must not exceed 7 percent opacity.
10. Each set of multiple storage bins at a new or existing affected source, with combined stack emissions.	You must comply with the emission limits in items 5 and 6 of this Table 1.

TABLE 2 TO SUBPART AAAAA OF PART 63—OPERATING LIMITS

As required in §63.7090(b), you must meet each operating limit in the following table that applies to you.

For . . .	You must . . .
1. Each lime kiln and each lime cooler (if there is a separate exhaust to the atmosphere from the associated lime cooler) equipped with an FF.	Maintain and operate the FF such that the BLDS or PM detector alarm condition does not exist for more than 5 percent of the total operating time in a 6-month period; and comply with the requirements in §63.7113(d) through (f) and Table 5 to this subpart. In lieu of a BLDS or PM detector maintain the FF such that the 6-minute average opacity for any 6-minute block period does not exceed 15 percent; and comply with the requirements in §63.7113(f) and (g) and Table 5 to this subpart.
2. Each lime kiln equipped with a wet scrubber	Maintain the 3-hour block exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the most recent PM performance test; and maintain the 3-hour block scrubbing liquid flow rate greater than the flow rate operating limit established during the most recent performance test.
3. Each lime kiln equipped with an electrostatic precipitator	Install a PM detector and maintain and operate the ESP such that the PM detector alarm is not activated and alarm condition does not exist for more than 5 percent of the total operating time in a 6-month period, and comply with §63.7113(e); or, maintain the ESP such that the 6-minute average opacity for any 6-minute block period does not exceed 15 percent, and comply with the requirements in §63.7113(g); and comply with the requirements in §63.7113(f) and Table 5 to this subpart.
4. Each PSH operation subject to a PM limit which uses a wet scrubber.	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.
5. All affected sources	Prepare a written OM&M plan; the plan must include the items listed in §63.7100(d) and the corrective actions to be taken when required in Table 5 to this subpart.
6. Each emission unit equipped with an add-on air pollution control device.	a. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to an FF; and b. Operate each capture/collection system according to the procedures and requirements in the OM&M plan.

TABLE 3 TO SUBPART AAAAA OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITS

As required in §63.7114, you must demonstrate initial compliance with each emission limitation that applies to you, according to the following table.

For . . .	For the following emission limit . . .	You have demonstrated initial compliance, if after following the requirements in §63.7112 . . .
1. All new or existing lime kilns and their associated lime coolers (kilns/coolers).	PM emissions must not exceed 0.12 lb/tsf for all existing kilns/coolers with dry controls, 0.60 lb/tsf for existing kilns/coolers with wet scrubbers, 0.10 lb/tsf for all new kilns/coolers, or a weighted average calculated according to Eq. 3 in §63.7112.	The kiln outlet PM emissions (and if applicable, summed with the separate cooler PM emissions), based on the PM emissions measured using Method 5 in appendix A to part 60 of this chapter and the stone feed rate measurement over the period of initial performance test, do not exceed the emission limit; if the lime kiln is controlled by an FF or ESP and you are opting to monitor PM emissions with a BLDS or PM detector, you have installed and are operating the monitoring device according to the requirements in §63.7113(d) or (e), respectively; and if the lime kiln is controlled by an FF or ESP and you are opting to monitor PM emissions using a COMS, you have installed and are operating the COMS according to the requirements in §63.7113(g).

For . . .	For the following emission limit . . .	You have demonstrated initial compliance, if after following the requirements in §63.7112 . . .
2. Stack emissions from all PHS operations at a new or existing affected source.	PM emissions must not exceed 0.05 g/dscm.	The outlet PM emissions, based on Method 5 or Method 17 in appendix A to part 60 of this chapter, over the period of the initial performance test do not exceed 0.05 g/dscm; and if the emission unit is controlled with a wet scrubber, you have a record of the scrubber's pressure drop and liquid flow rate operating parameters over the 3-hour performance test during which emissions did not exceed the emissions limitation.
3. Stack emissions from all PSH operations at a new or existing affected source, unless the stack emissions are discharged through a wet scrubber control device.	Emissions must not exceed 7 percent opacity.	Each of the thirty 6-minute opacity averages during the initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 7 percent opacity limit. At least thirty 6-minute averages must be obtained.
4. Fugitive emissions from all PSH operations at a new or existing affected source.	Emissions must not exceed 10 percent opacity.	Each of the 6-minute opacity averages during the initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 10 percent opacity limit.
5. All PSH operations at a new or existing affected source, enclosed in building.	All of the individually affected PSH operations must comply with the applicable PM and opacity emission limitations for items 2 through 4 of this Table 3, or the building must comply with the following: There must be no VE from the building, except from a vent, and vent emissions must not exceed the emission limitations in items 2 and 3 of this Table 3.	All the PSH operations enclosed in the building have demonstrated initial compliance according to the applicable requirements for items 2 through 4 of this Table 3; or if you are complying with the building emission limitations, there are no VE from the building according to item 18 of Table 4 to this subpart and §63.7112(k), and you demonstrate initial compliance with applicable building vent emissions limitations according to the requirements in items 2 and 3 of this Table 3.
6. Each FF that controls emissions from only an individual storage bin.	Emissions must not exceed 7 percent opacity.	Each of the ten 6-minute averages during the 1-hour initial compliance period, using Method 9 in appendix A to part 60 of this chapter, does not exceed the 7 percent opacity limit.
7. Each set of multiple storage bins with combined stack emissions.	You must comply with emission limitations in items 2 and 3 of this Table 3.	You demonstrate initial compliance according to the requirements in items 2 and 3 of this Table 3.

TABLE 4 TO SUBPART AAAAA OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

As required in §63.7112, you must conduct each performance test in the following table that applies to you.

For . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Select the location of the sampling port and the number of traverse ports.	Method 1 or 1A of appendix A to part 60 of this chapter, and §63.6(d)(1)(i).	Sampling sites must be located at the outlet of the control device(s) and prior to any releases to the atmosphere.
2. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Determine velocity and volumetric flow rate.	Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter.	Not applicable.
3. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Conduct gas molecular weight analysis.	Method 3, 3A, or 3B in appendix A to part 60 of this chapter.	Not applicable.

For . . .	You must . . .	Using . . .	According to the following requirements . . .
4. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler.	Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	Not applicable.
5. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler, and which uses a negative pressure PM control device.	Measure PM emissions	Method 5 in appendix A to part 60 of this chapter.	Conduct the test(s) when the source is operating at representative operating conditions in accordance with §63.7(e); the minimum sampling volume must be 0.85 dry standard cubic meter (dscm) (30 dry standard cubic foot (dscf)); if there is a separate lime cooler exhaust to the atmosphere, you must conduct the Method 5 test of the cooler exhaust concurrently with the kiln exhaust test.
6. Each lime kiln and each associated lime cooler, if there is a separate exhaust to the atmosphere from the associated lime cooler, and which uses a positive pressure FF or ESP.	Measure PM emissions	Method 5D in appendix A to part 60 of this chapter.	Conduct the test(s) when the source is operating at representative operating conditions in accordance with §63.7(e); if there is a separate lime cooler exhaust to the atmosphere, you must conduct the Method 5 test of the separate cooler exhaust concurrently with the kiln exhaust test.
7. Each lime kiln	Determine the mass rate of stone feed to the kiln during the kiln PM emissions test.	Any suitable device	Calibrate and maintain the device according to manufacturer's instructions; the measuring device used must be accurate to within ±5 percent of the mass rate of stone feed over its operating range.
8. Each lime kiln equipped with a wet scrubber.	Establish the operating limit for the average gas stream pressure drop across the wet scrubber.	Data for the gas stream pressure drop measurement device during the kiln PM performance test.	The continuous pressure drop measurement device must be accurate within plus or minus 1 percent; you must collect the pressure drop data during the period of the performance test and determine the operating limit according to §63.7112(j).
9. Each lime kiln equipped with a wet scrubber.	Establish the operating limit for the average liquid flow rate to the scrubber.	Data from the liquid flow rate measurement device during the kiln PM performance test.	The continuous scrubbing liquid flow rate measuring device must be accurate within plus or minus 1 percent; you must collect the flow rate data during the period of the performance test and determine the operating limit according to §63.7112(j).
10. Each lime kiln equipped with a FF or ESP that is monitored with a PM detector.	Have installed and have operating the BLDS or PM detector prior to the performance test.	Standard operating procedures incorporated into the OM&M plan.	According to the requirements in §63.7113(d) or (e), respectively.

For . . .	You must . . .	Using . . .	According to the following requirements . . .
11. Each lime kiln equipped with a FF or ESP that is monitored with a COMS.	Have installed and have operating the COMS prior to the performance test.	Standard operating procedures incorporated into the OM&M plan and as required by 40 CFR part 63, subpart A, General Provisions and according to PS–1 of appendix B to part 60 of this chapter, except as specified in § 63.7113(g)(2).	According to the requirements in § 63.7113(g).
12. Each stack emission from a PSH operation, vent from a building enclosing a PSH operation, or set of multiple storage bins with combined stack emissions, which is subject to a PM emission limit.	Measure PM emissions	Method 5 or Method 17 in appendix A to part 60 of this chapter.	The sample volume must be at least 1.70 dscm (60 dscf); for Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters; and if the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter (Method 17 may be used only with exhaust gas temperatures of not more than 250 °F).
13. Each stack emission from a PSH operation, vent from a building enclosing a PSH operation, or set of multiple storage bins with combined stack emissions, which is subject to an opacity limit.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 3 hours and you must obtain at least thirty, 6-minute averages.
14. Each stack emissions source from a PSH operation subject to a PM or opacity limit, which uses a wet scrubber.	Establish the average gas stream pressure drop across the wet scrubber.	Data for the gas stream pressure drop measurement device during the PSH operation stack PM performance test.	The pressure drop measurement device must be accurate within plus or minus 1 percent; you must collect the pressure drop data during the period of the performance test and determine the operating limit according to § 63.7112(j).
15. Each stack emissions source from a PSH operation subject to a PM or opacity limit, which uses a wet scrubber.	Establish the operating limit for the average liquid flow rate to the scrubber.	Data from the liquid flow rate measurement device during the PSH operation stack PM performance test.	The continuous scrubbing liquid flow rate measuring device must be accurate within plus or minus 1 percent; you must collect the flow rate data during the period of the performance test and determine the operating limit according to § 63.7112(j).
16. Each FF that controls emissions from only an individual, enclosed, new or existing storage bin.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 1 hour and you must obtain ten 6-minute averages.
17. Fugitive emissions from any PSH operation subject to an opacity limit.	Conduct opacity observations	Method 9 in appendix A to part 60 of this chapter.	The test duration must be for at least 3 hours, but the 3-hour test may be reduced to 1 hour if, during the first 1-hour period, there are no individual readings greater than 10 percent opacity and there are no more than three readings of 10 percent during the first 1-hour period.

For . . .	You must . . .	Using . . .	According to the following requirements . . .
18. Each building enclosing any PSH operation, that is subject to a VE limit.	Conduct VE check	The specifications in §63.7112(k).	The performance test must be conducted while all affected PSH operations within the building are operating; the performance test for each affected building must be at least 75 minutes, with each side of the building and roof being observed for at least 15 minutes.

TABLE 5 TO SUBPART AAAAA OF PART 63—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS

As required in §63.7121, you must demonstrate continuous compliance with each operating limit that applies to you, according to the following table:

For . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
1. Each lime kiln controlled by a wet scrubber.	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.	Collecting the wet scrubber operating data according to all applicable requirements in §63.7113 and reducing the data according to §63.7113(a); maintaining the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintaining the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test (the continuous scrubbing liquid flow rate measuring device must be accurate within ±1% and the continuous pressure drop measurement device must be accurate within ±1%).
2. Each lime kiln or lime cooler equipped with a FF and using a BLDS, and each lime kiln equipped with an ESP or FF using a PM detector.	a. Maintain and operate the FF or ESP such that the bag leak or PM detector alarm, is not activated and alarm condition does not exist for more than 5 percent of the total operating time in each 6-month period.	(i) Operating the FF or ESP so that the alarm on the bag leak or PM detection system is not activated and an alarm condition does not exist for more than 5 percent of the total operating time in each 6-month reporting period; and continuously recording the output from the BLD or PM detection system; and (ii) Each time the alarm sounds and the owner or operator initiates corrective actions within 1 hour of the alarm, 1 hour of alarm time will be counted (if the owner or operator takes longer than 1 hour to initiate corrective actions, alarm time will be counted as the actual amount of time taken by the owner or operator to initiate corrective actions); if inspection of the FF or ESP system demonstrates that no corrective actions are necessary, no alarm time will be counted.

For . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
3. Each stack emissions source from a PSH operation subject to an opacity limit, which is controlled by a wet scrubber.	Maintain the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintain the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test.	Collecting the wet scrubber operating data according to all applicable requirements in §63.7113 and reducing the data according to §63.7113(a); maintaining the 3-hour block average exhaust gas stream pressure drop across the wet scrubber greater than or equal to the pressure drop operating limit established during the PM performance test; and maintaining the 3-hour block average scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the performance test (the continuous scrubbing liquid flow rate measuring device must be accurate within ±1% and the continuous pressure drop measurement device must be accurate within ±1%).
4. For each lime kiln or lime cooler equipped with a FF or an ESP that uses a COMS as the monitoring device.	a. Maintain and operate the FF or ESP such that the average opacity for any 6-minute block period does not exceed 15 percent.	i. Installing, maintaining, calibrating and operating a COMS as required by 40 CFR part 63, subpart A, General Provisions and according to PS–1 of appendix B to part 60 of this chapter, except as specified in §63.7113(g)(2); and ii. Collecting the COMS data at a frequency of at least once every 15 seconds, determining block averages for each 6-minute period and demonstrating for each 6-minute block period the average opacity does not exceed 15 percent.

TABLE 6 TO SUBPART AAAAA OF PART 63—PERIODIC MONITORING FOR COMPLIANCE WITH OPACITY AND VISIBLE EMISSIONS LIMITS

As required in §63.7121 you must periodically demonstrate compliance with each opacity and VE limit that applies to you, according to the following table:

For . . .	For the following emission limitation . . .	You must demonstrate ongoing compliance . . .
1. Each PSH operation subject to an opacity limitation as required in Table 1 to this subpart, or any vents from buildings subject to an opacity limitation.	a. 7–10 percent opacity, depending on the PSH operation, as required in Table 1 to this subpart.	(i) Conducting a monthly 1-minute VE check of each emission unit in accordance with §63.7121(e); the check must be conducted while the affected source is in operation; (ii) If no VE are observed in 6 consecutive monthly checks for any emission unit, you may decrease the frequency of VE checking from monthly to semiannually for that emission unit; if VE are observed during any semiannual check, you must resume VE checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; (iii) If no VE are observed during the semiannual check for any emission unit, you may decrease the frequency of VE checking from semi-annually to annually for that emission unit; if VE are observed during any annual check, you must resume VE checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; and

For . . .	For the following emission limitation . . .	You must demonstrate ongoing compliance . . .
2. Any building subject to a VE limit, according to item 8 of Table 1 to this subpart.	a. No VE	(iv) If VE are observed during any VE check, you must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter; you must begin the Method 9 test within 1 hour of any observation of VE and the 6-minute opacity reading must not exceed the applicable opacity limit. (i) Conducting a monthly VE check of the building, in accordance with the specifications in §63.7112(k); the check must be conducted while all the enclosed PSH operations are operating; (ii) The check for each affected building must be at least 5 minutes, with each side of the building and roof being observed for at least 1 minute; (iii) If no VE are observed in 6 consecutive monthly checks of the building, you may decrease the frequency of checking from monthly to semi-annually for that affected source; if VE are observed during any semi-annual check, you must resume checking on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks; and (iv) If no VE are observed during the semi-annual check, you may decrease the frequency of checking from semi-annually to annually for that affected source; and if VE are observed during any annual check, you must resume checking of that emission unit on a monthly basis and maintain that schedule until no VE are observed in 6 consecutive monthly checks (the source is in compliance if no VE are observed during any of these checks).

TABLE 7 TO SUBPART AAAAA OF PART 63—REQUIREMENTS FOR REPORTS

As required in §63.7131, you must submit each report in this table that applies to you.

You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. If there are no deviations from any emission limitations (emission limit, operating limit, opacity limit, and VE limit) that applies to you, a statement that there were no deviations from the emission limitations during the reporting period;	Semiannually according to the requirements in §63.7131(b).
	b. If there were no periods during which the CMS, including any operating parameter monitoring system, was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period;	Semiannually according to the requirements in §63.7131(b).
	c. If you have a deviation from any emission limitation (emission limit, operating limit, opacity limit, and VE limit) during the reporting period, the report must contain the information in §63.7131(d);	Semiannually according to the requirements in §63.7131(b).

You must submit a . . .	The report must contain . . .	You must submit the report . . .
	d. If there were periods during which the CMS, including any operating parameter monitoring system, was out-of-control, as specified in §63.8(c)(7), the report must contain the information in §63.7131(e); and	Semiannually according to the requirements in §63.7131(b).
	e. If you had a startup, shutdown or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in §63.10(d)(5)(i).	Semiannually according to the requirements in §63.7131(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP.	Actions taken for the event	By fax or telephone within 2 working days after starting actions inconsistent with the SSMP.
3. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP.	The information in §63.10(d)(5)(ii)	By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. See §63.10(d)(5)(ii).

TABLE 8 TO SUBPART AAAAA OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAA

As required in §63.7140, you must comply with the applicable General Provisions requirements according to the following table:

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§63.1(a)(1)–(4)	Applicability	Yes.	
§63.1(a)(5)		No.	
§63.1(a)(6)	Applicability	Yes.	
§63.1(a)(7)–(a)(9)		No.	
§63.1(a)(10)–(a)(14)	Applicability	Yes.	
§63.1(b)(1)	Initial Applicability Determination.	Yes	§§63.7081 and 63.7142 specify additional applicability determination requirements.
§63.1(b)(2)		No.	
§63.1(b)(3)	Initial Applicability Determination.	Yes.	
§63.1(c)(1)	Applicability After Standard Established.	Yes.	
§63.1(c)(2)	Permit Requirements	No	Area sources not subject to subpart AAAAA, except all sources must make initial applicability determination.
§63.1(c)(3)		No.	
§63.1(c)(4)–(5)	Extensions, Notifications	Yes.	
§63.1(d)		No.	
§63.1(e)	Applicability of Permit Program.	Yes.	
§63.2	Definitions		Additional definitions in §63.7143.
§63.3(a)–(c)	Units and Abbreviations	Yes.	
§63.4(a)(1)–(a)(2)	Prohibited Activities	Yes.	
§3.4(a)(3)–(a)(5)		No.	
§63.4(b)–(c)	Circumvention, Severability	Yes.	
§63.5(a)(1)–(2)	Construction/Reconstruction	Yes.	
§63.5(b)(1)	Compliance Dates	Yes.	
§63.5(b)(2)		No.	
§63.5(b)(3)–(4)	Construction Approval, Applicability.	Yes.	
§63.5(b)(5)		No.	
§63.5(b)(6)	Applicability	Yes.	
§63.5(c)		No.	
§63.5(d)(1)–(4)	Approval of Construction/Reconstruction.	Yes.	
§63.5(e)	Approval of Construction/Reconstruction.	Yes.	

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§63.5(f)(1)–(2)	Approval of Construction/Reconstruction.	Yes.	
§63.6(a)	Compliance for Standards and Maintenance.	Yes.	
§63.6(b)(1)–(5)	Compliance Dates	Yes.	
§63.6(b)(6)		No.	
§63.6(b)(7)	Compliance Dates	Yes.	
§63.6(c)(1)–(2)	Compliance Dates	Yes.	
§63.6(c)(3)–(c)(4)		No.	
§63.6(c)(5)	Compliance Dates	Yes.	
§63.6(d)		No.	
§63.6(e)(1)	Operation & Maintenance	Yes	See §63.7100 for OM&M requirements.
§63.6(e)(2)		No.	
§63.6(e)(3)	Startup, Shutdown Malfunction Plan.	Yes.	
§63.6(f)(1)–(3)	Compliance with Emission Standards.	Yes.	
§63.6(g)(1)–(g)(3)	Alternative Standard	Yes.	
§63.6(h)(1)–(2)	Opacity/VE Standards	Yes.	
§63.6(h)(3)		No.	
§63.6(h)(4)–(h)(5)(i)	Opacity/VE Standards	Yes	This requirement only applies to opacity and VE performance checks required in Table 4 to subpart AAAAA.
§63.6(h)(5) (ii)–(iii)	Opacity/VE Standards	No	Test durations are specified in subpart AAAAA; subpart AAAAA takes precedence.
§63.6(h)(5)(iv)	Opacity/VE Standards	No.	
§63.6(h)(5)(v)	Opacity/VE Standards	Yes.	
§63.6(h)(6)	Opacity/VE Standards	Yes.	
§63.6(h)(7)	COM Use	Yes.	
§63.6(h)(8)	Compliance with Opacity and VE.	Yes.	
§63.6(h)(9)	Adjustment of Opacity Limit	Yes.	
§63.6(i)(1)–(i)(14)	Extension of Compliance	Yes.	
§63.6(i)(15)		No.	
§63.6(i)(16)	Extension of Compliance	Yes.	
§63.6(j)	Exemption from Compliance	Yes.	
§63.7(a)(1)–(a)(3)	Performance Testing Requirements.	Yes	§63.7110 specifies deadlines; §63.7112 has additional specific requirements.
§63.7(b)	Notification	Yes.	
§63.7(c)	Quality Assurance/Test Plan	Yes.	
§63.7(d)	Testing Facilities	Yes.	
§63.7(e)(1)–(4)	Conduct of Tests	Yes.	
§63.7(f)	Alternative Test Method	Yes.	
§63.7(g)	Data Analysis	Yes.	
§63.7(h)	Waiver of Tests	Yes.	
§63.8(a)(1)	Monitoring Requirements	Yes	See §63.7113.
§63.8(a)(2)	Monitoring	Yes.	
§63.8(a)(3)		No.	
§63.8(a)(4)	Monitoring	No	Flares not applicable.
§63.8(b)(1)–(3)	Conduct of Monitoring	Yes.	
§63.8(c)(1)–(3)	CMS Operation/Maintenance	Yes.	
§63.8(c)(4)	CMS Requirements	No	See §63.7121.
§63.8(c)(4)(i)–(ii)	Cycle Time for COM and CEMS.	Yes	No CEMS are required under subpart AAAAA; see §63.7113 for CPMS requirements.
§63.8(c)(5)	Minimum COM procedures	Yes	COM not required.
§63.8(c)(6)	CMS Requirements	No	See §63.7113.
§63.8(c)(7)–(8)	CMS Requirements	Yes.	
§63.8(d)	Quality Control	No	See §63.7113.
§63.8(e)	Performance Evaluation for CMS.	No.	
§63.8(f)(1)–(f)(5)	Alternative Monitoring Method	Yes.	
§63.8(f)(6)	Alternative to Relative Accuracy test.	No.	
§63.8(g)(1)–(g)(5)	Data Reduction; Data That Cannot Be Used.	No	See data reduction requirements in §§63.7120 and 63.7121.
§63.9(a)	Notification Requirements	Yes	See §63.7130.

Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§ 63.9(b)	Initial Notifications	Yes.	
§ 63.9(c)	Request for Compliance Extension.	Yes.	
§ 63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
§ 63.9(e)	Notification of Performance Test.	Yes.	
§ 63.9(f)	Notification of VE/Opacity Test.	Yes	This requirement only applies to opacity and VE performance tests required in Table 4 to subpart AAAAA. Notification not required for VE/opacity test under Table 6 to subpart AAAAA.
§ 63.9(g)	Additional CMS Notifications	No	Not required for operating parameter monitoring.
§ 63.9(h)(1)–(h)(3)	Notification of Compliance Status.	Yes.	
§ 63.9(h)(4)		No.	
§ 63.9(h)(5)–(h)(6)	Notification of Compliance Status.	Yes.	
§ 63.9(i)	Adjustment of Deadlines	Yes.	
§ 63.9(j)	Change in Previous Information.	Yes.	
§ 63.10(a)	Recordkeeping/Reporting General Requirements.	Yes	See §§ 63.7131 through 63.7133.
§ 63.10(b)(1)–(b)(2)(xii)	Records	Yes.	
§ 63.10(b)(2)(xiii)	Records for Relative Accuracy Test.	No.	
§ 63.10(b)(2)(xiv)	Records for Notification	Yes.	
§ 63.10(b)(3)	Applicability Determinations	Yes.	
§ 63.10(c)	Additional CMS Recordkeeping.	No	See § 63.7132.
§ 63.10(d)(1)	General Reporting Requirements.	Yes.	
§ 63.10(d)(2)	Performance Test Results	Yes.	
§ 63.10(d)(3)	Opacity or VE Observations	Yes	For the periodic monitoring requirements in Table 6 to subpart AAAAA, report according to § 63.10(d)(3) only if VE observed and subsequent visual opacity test is required.
§ 63.10(d)(4)	Progress Reports	Yes.	
§ 63.10(d)(5)	Startup, Shutdown, Malfunction Reports.	Yes.	
§ 63.10(e)	Additional CMS Reports	No	See specific requirements in subpart AAAAA, see § 63.7131.
§ 63.10(f)	Waiver for Recordkeeping/Reporting.	Yes.	
§ 63.11(a)–(b)	Control Device Requirements	No	Flares not applicable.
§ 63.12(a)–(c)	State Authority and Delegations.	Yes.	
§ 63.13(a)–(c)	State/Regional Addresses	Yes.	
§ 63.14(a)–(b)	Incorporation by Reference	No.	
§ 63.15(a)–(b)	Availability of Information	Yes.	

Subpart BBBBB—National Emission Standards for Hazardous Air Pollutants for Semiconductor Manufacturing

SOURCE: 68 FR 27925, May 22, 2003, unless otherwise noted.

WHAT THIS SUBPART COVERS

§ 63.7180 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for semiconductor manufacturing facilities. This subpart also establishes requirements

APPENDIX E

CEM Standards

Arkansas Department of Environmental Quality

CONTINUOUS EMISSION MONITORING SYSTEMS CONDITIONS

Revised August 2004

PREAMBLE

These conditions are intended to outline the requirements for facilities required to operate Continuous Emission Monitoring Systems/Continuous Opacity Monitoring Systems (CEMS/COMS). Generally there are three types of sources required to operate CEMS/COMS:

1. CEMS/COMS required by 40 CFR Part 60 or 63,
2. CEMS required by 40 CFR Part 75,
3. CEMS/COMS required by ADEQ permit for reasons other that Part 60, 63 or 75.

These CEMS/COMS conditions are not intended to supercede Part 60, 63 or 75 requirements.

- Only CEMS/COMS in the third category (those required by ADEQ permit for reasons other than Part 60, 63, or 75) shall comply with SECTION II, MONITORING REQUIREMENTS and SECTION IV, QUALITY ASSURANCE/QUALITY CONTROL.

- All CEMS/COMS shall comply with Section III, NOTIFICATION AND RECORDKEEPING.

SECTION I

DEFINITIONS

Continuous Emission Monitoring System (CEMS) - The total equipment required for the determination of a gas concentration and/or emission rate so as to include sampling, analysis and recording of emission data.

Continuous Opacity Monitoring System (COMS) - The total equipment required for the determination of opacity as to include sampling, analysis and recording of emission data.

Calibration Drift (CD) - The difference in the CEMS output reading from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustments took place.

Back-up CEMS (Secondary CEMS) - A CEMS with the ability to sample, analyze and record stack pollutant to determine gas concentration and/or emission rate. This CEMS is to serve as a back-up to the primary CEMS to minimize monitor downtime.

Excess Emissions - Any period in which the emissions exceed the permit limits.

Monitor Downtime - Any period during which the CEMS/COMS is unable to sample, analyze and record a minimum of four evenly spaced data points over an hour, except during one daily zero-span check during which two data points per hour are sufficient.

Out-of-Control Period - Begins with the time corresponding to the completion of the fifth, consecutive, daily CD check with a CD in excess of two times the allowable limit, or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit and the time corresponding to the completion of the sampling for the RATA, RAA, or CGA which exceeds the limits outlined in Section IV. Out-of-Control Period ends with the time corresponding to the completion of the CD check following corrective action with the results being within the allowable CD limit or the completion of the sampling of the subsequent successful RATA, RAA, or CGA.

Primary CEMS - The main reporting CEMS with the ability to sample, analyze, and record stack pollutant to determine gas concentration and/or emission rate.

Relative Accuracy (RA) - The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the reference method plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the reference method tests of the applicable emission limit.

Span Value – The upper limit of a gas concentration measurement range.

SECTION II

MONITORING REQUIREMENTS

A. For new sources, the installation date for the CEMS/COMS shall be no later than thirty (30) days from the date of start-up of the source.

B. For existing sources, the installation date for the CEMS/COMS shall be no later than sixty (60) days from the issuance of the permit unless the permit requires a specific date.

C. Within sixty (60) days of installation of a CEMS/COMS, a performance specification test (PST) must be completed. PST's are defined in 40 CFR, Part 60, Appendix B, PS 1-9. The Department may accept alternate PST's for pollutants not covered by Appendix B on a case-by-case basis. Alternate PST's shall be approved, in writing, by the ADEQ CEM Coordinator prior to testing.

D. Each CEMS/COMS shall have, as a minimum, a daily zero-span check. The zero-span shall be adjusted whenever the 24-hour zero or 24-hour span drift exceeds two times the limits in the applicable performance specification in 40 CFR, Part 60, Appendix B. Before any adjustments are made to either the zero or span drifts measured at the 24-hour interval the excess zero and span drifts measured must be quantified and recorded.

E. All CEMS/COMS shall be in continuous operation and shall meet minimum frequency of operation requirements of 95% up-time for each quarter for each pollutant measured. Percent of monitor down-time is calculated by dividing the total minutes the monitor is not in operation by the total time in the calendar quarter and multiplying by one hundred. Failure to maintain operation time shall constitute a violation of the CEMS conditions.

F. Percent of excess emissions are calculated by dividing the total minutes of excess emissions by the total time the source operated and multiplying by one hundred. Failure to maintain compliance may constitute a violation of the CEMS conditions.

G. All CEMS measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive fifteen minute period unless more cycles are required by the permit. For each CEMS, one-hour averages shall be computed from four or more data points equally spaced over each one hour period unless more data points are required by the permit.

H. All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

I. When the pollutant from a single affected facility is released through more than one point, a CEMS/COMS shall be installed on each point unless installation of fewer systems is approved, in writing, by the ADEQ CEM Coordinator. When more than one CEM/COM is used to monitor emissions from one affected facility the owner or operator shall report the results as required from each CEMS/COMS.

SECTION III

NOTIFICATION AND RECORD KEEPING

A. When requested to do so by an owner or operator, the ADEQ CEM Coordinator will review plans for installation or modification for the purpose of providing technical advice to the owner or operator.

B. Each facility which operates a CEMS/COMS shall notify the ADEQ CEM Coordinator of the date for which the demonstration of the CEMS/COMS performance will commence (i.e. PST, RATA, RAA, CGA). Notification shall be received in writing no less than 15 days prior to testing. Performance test results shall be submitted to the Department within thirty days after completion of testing.

C. Each facility which operates a CEMS/COMS shall maintain records of the occurrence and duration of start up/shut down, cleaning/soot blowing, process problems, fuel problems, or other malfunction in the operation of the affected facility which causes excess emissions. This includes any malfunction of the air pollution control equipment or any period during which a continuous monitoring device/system is inoperative.

D. Except for Part 75 CEMs, each facility required to install a CEMS/COMS shall submit an excess emission and monitoring system performance report to the Department (Attention: Air Division, CEM Coordinator) at least quarterly, unless more frequent submittals are warranted to assess the compliance status of the facility. Quarterly reports shall be postmarked no later than the 30th day of the month following the end of each calendar quarter. Part 75 CEMs shall submit this information semi-annually and as part of Title V six (6) month reporting requirement if the facility is a Title V facility.

E. All excess emissions shall be reported in terms of the applicable standard. Each report shall be submitted on ADEQ Quarterly Excess Emission Report Forms. Alternate forms may be used with prior written approval from the Department.

F. Each facility which operates a CEMS/COMS must maintain on site a file of CEMS/COMS data including all raw data, corrected and adjusted, repair logs, calibration checks, adjustments, and test audits. This file must be retained for a period of at least five years, and is required to be maintained in such a condition that it can easily be audited by an inspector.

G. Except for Part 75 CEMs, quarterly reports shall be used by the Department to determine compliance with the permit. For Part 75 CEMs, the semi-annual report shall be used.

SECTION IV

QUALITY ASSURANCE/QUALITY CONTROL

A. For each CEMS/COMS a Quality Assurance/Quality Control (QA/QC) plan shall be submitted to the Department (Attn.: Air Division, CEM Coordinator). CEMS quality assurance procedures are defined in 40 CFR, Part 60, Appendix F. This plan shall be submitted within 180 days of the CEMS/COMS installation. A QA/QC plan shall consist of procedure and practices which assures acceptable level of monitor data accuracy, precision, representativeness, and availability.

B. The submitted QA/QC plan for each CEMS/COMS shall not be considered as accepted until the facility receives a written notification of acceptance from the Department.

C. Facilities responsible for one, or more, CEMS/COMS used for compliance monitoring shall meet these minimum requirements and are encouraged to develop and implement a more extensive QA/QC program, or to continue such programs where they already exist. Each QA/QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS/COMS
   a. Daily calibrations (including the approximate time(s) that the daily zero and span drifts will be checked and the time required to perform these checks and return to stable operation)
2. Calibration drift determination and adjustment of CEMS/COMS
   a. Out-of-control period determination
   b. Steps of corrective action
3. Preventive maintenance of CEMS/COMS
   a. CEMS/COMS information
      1) Manufacture
      2) Model number
      3) Serial number
   b. Scheduled activities (check list)
   c. Spare part inventory
4. Data recording, calculations, and reporting
5. Accuracy audit procedures including sampling and analysis methods
6. Program of corrective action for malfunctioning CEMS/COMS

D. A Relative Accuracy Test Audit (RATA), shall be conducted at least once every four calendar quarters. A Relative Accuracy Audit (RAA), or a Cylinder Gas Audit (CGA), may be conducted in the other three quarters but in no more than three quarters in succession. The RATA should be conducted in accordance with the applicable test procedure in 40 CFR Part 60 Appendix A and calculated in accordance with the applicable performance specification in 40 CFR Part 60 Appendix B. CGA's and RAA's should be conducted and the data calculated in accordance with the procedures outlined on 40 CFR Part 60 Appendix F.

If alternative testing procedures or methods of calculation are to be used in the RATA, RAA or CGA audits prior authorization must be obtained from the ADEQ CEM Coordinator.

E. Criteria for excessive audit inaccuracy.

RATA

All Pollutants except Carbon Monoxide	> 20% Relative Accuracy
Carbon Monoxide	> 10% Relative Accuracy
All Pollutants except Carbon Monoxide	> 10% of the Applicable Standard
Carbon Monoxide	> 5% of the Applicable Standard
Diluent (O_2 & CO_2)	> 1.0 % O2 or CO2
Flow	> 20% Relative Accuracy

CGA

Pollutant	> 15% of average audit value or 5 ppm difference
Diluent (O_2 & CO_2)	> 15% of average audit value or 5 ppm difference

RAA

Pollutant	> 15% of the three run average or > 7.5 % of the applicable standard
Diluent (O_2 & CO_2)	> 15% of the three run average or > 7.5 % of the applicable standard

F. If either the zero or span drift results exceed two times the applicable drift specification in 40 CFR, Part 60, Appendix B for five consecutive, daily periods, the CEMS is out-of-control. If either the zero or span drift results exceed four times the applicable drift specification in Appendix B during a calibration drift check, the CEMS is out-of-control. If the CEMS exceeds the audit inaccuracies listed above, the CEMS is out-of-control. If a CEMS is out-of-control, the data from that out-of-control period is not counted towards meeting the minimum data availability as required and described in the applicable subpart. The end of the out-of-control period is the time corresponding to the completion of the successful daily zero or span drift or completion of the successful CGA, RAA or RATA.

G. A back-up monitor may be placed on an emission source to minimize monitor downtime. This back-up CEMS is subject to the same QA/QC procedure and practices as the primary CEMS. The back-up CEMS shall be certified by a PST. Daily zero-span checks must be performed and recorded in accordance with standard practices. When the primary CEMS goes down, the back-up CEMS may then be engaged to sample, analyze and record the emission source pollutant until repairs are made and the primary unit is placed back in service. Records must be maintained on site when the back-up CEMS is placed in service, these records shall include at a minimum the reason the primary CEMS is out of service, the date and time the primary CEMS was out of service and the date and time the primary CEMS was placed back in service.

APPENDIX F

PSD Information for Permit 0045-AOP-R1

PREVENTION OF SIGNIFICANT DETERIORATION
For Permit 0045-AOP-R1

General Information

Arkansas Lime Company is proposing to make several changes at their existing lime plant and quarry. The most significant change will be the installation of a new 625 tpd rotary lime kiln which will replace the existing six vertical lime kilns. The new lime kiln will be located at the quarry instead of the lime plant. This has resulted in the need for moving and/or modifying existing equipment, taking existing equipment out of service, and installing new equipment. A list of the changes taking place may be found below.

The following are the proposed changes that were included in Arkansas Lime Company's permit application:

1. A new 625 tpd rotary lime kiln will replace the six existing vertical lime kilns. The installation of this new kiln will increase the overall production capacity of this facility.

2. A product cooler, a storage silo, screens, loadout equipment, and dust collectors associated with the new rotary lime kiln will be installed at the quarry.

3. A storage and handling system for the coal and coke used to fire the kiln will be installed.

4. The primary and the secondary crushers, the quarry screen, the limestone piles, and the railcar loadout will be replaced.

5. Traffic patterns on the unpaved roads will be changing due to increased production and location of the kiln at the quarry.

6. New conveyor transfer points will be installed at the quarry.

7. A new top bench screen and a new PLS/Ag-Lime screen will be installed at the quarry.

8. The Ag-Lime truck loading and the Ag-Lime truck/rail top-off will be moved from the lime plant to the quarry.

9. Many of the limestone drop points at the lime plant will be taken out of service.

10. The quicklime crusher will be removed from service.

11. The quicklime screen will become the rice lime screen.

12. The quicklime storage tank loadouts will become the rice lime and quicklime fines tanks loadout.

13. A new hydrate storage bin vent dust collector has been installed at the lime plant.

14. A consolidated PLS storage and loadout system will be installed at the lime plant to replace the existing PLS storage and loadout system.

15. A new quicklime fines rail unloading pit will be installed.

16. The following sources will be or already have been removed from service at the lime plant:

    - limestone stockpiles

    - vertical lime kilns #1 thru #6

    - lime crusher and conveyor transfer points

    - hydrators vented to wet scrubber (were replaced by new hydrator venting to hydrate separator dust collector in October 1998)

    - PLS screening operations

    - portable Ag-Lime plant

    - undersize stone conveyors and drop points

    - kiln feed/undersize stone screen

Changes in annual emission rates are used to determine PSD applicability. The changes in annual emission rates are calculated based on the difference between the average emission levels for the two years prior to the modification (1996 and 1997) and the maximum annual potential emissions after the proposed modification.

A net emissions increase is determined by taking the emissions increase associated with the proposed modification, subtracting source-wide creditable contemporaneous decreases and then adding source-wide creditable contemporaneous emission increases. An emissions increase or decrease is creditable only if the reviewing authority has not relied on it in issuing a PSD permit for the source and the permit is still in effect when the increase in actual emissions from the proposed modification occurs. To be contemporaneous, changes in actual emissions must occur within a period beginning five years prior to the date construction is expected to commence and ending when the emissions increase from the modification occurs. Each increase or decrease is calculated as the difference between the new allowable emission rate and either the old level of actual emissions or allowable emissions, whichever is lower.

The net emission increases of sulfur dioxide and oxides of nitrogen will exceed the PSD Significant Increases. The emissions of total suspended particulate will not be increasing significantly. A summary of the net emission increases may be found in the following table.

Pollutant	Net Emission Increase (tpy)	PSD Significant Emission Increase (tpy)
SO_2	226.0	40.0
NO_X	395.0	40.0

Net emissions of carbon monoxide and particulate matter < 10 microns from this facility are decreasing. Therefore, the lime kiln was not required to undergo PSD review for these pollutants. A summary of the net emission decreases is contained in the table below.

Pollutant	Net Emissions Decrease (tpy)	PSD Significant Emission Increase (tpy)
TSP	8.62	25.0
PM_{10}	15.91	15.0
CO	295.0	100.0

BACT ANALYSIS

For a PSD permit, the applicant must perform a BACT analysis for each new unit. The applicant must perform a BACT analysis for each affected unit that is undergoing a physical change or change in the method of operation. The BACT evaluation must address each pollutant subject to PSD review emitted by the unit. For this permitting action, SO_2 and NO_X emission increases have been determined to be significant and are therefore subject to PSD review. BACT is determined on a case-by-case basis for each source taking into account technical feasibility, energy and environmental impacts, and cost.

A BACT analysis was conducted for the sulfur dioxide and the oxide of nitrogen emissions from the rotary lime kiln (source SN-11Q). A description of this BACT analysis may be found on the following pages.

BACT analysis for SO_2 from the Rotary Lime Kiln

Arkansas Lime considered several different fuel mixtures prior to considering further control technology. These fuel mixes included burning only natural gas or coal/coke blends with varying sulfur contents. Although the use of natural gas would significantly reduce the emissions from the rotary lime kiln, it was deemed as unusable on a continual basis. The cost of natural gas per MMBTU is higher than that of coal and coke. Also, the permittee would not be able to produce as much lime if natural gas were to be the primary fuel used to fire the kiln. The low sulfur fuel blends were also determined to be economically infeasible. Therefore, when control technologies were considered, the pre-control emissions were calculated using a fuel blend with a sulfur content of 4.0% by weight for the short term (hourly) emissions and 3% by weight on a 30-day rolling average. Other lime kilns at similar facilities use a coal/coke blend in

conjunction with a limited amount of natural gas as the primary fuel. No kilns at similar facilities were found to use only natural gas as the primary fuel.

The lime dust in the kiln acts as a dry scrubbing medium for sulfur dioxide. Arkansas Lime Company examined two technically feasible control technologies for the sulfur dioxide emissions from the lime kiln in addition to the dry scrubbing which occurs naturally in the kiln. The first was the use of a wet scrubber while the second was the use of a dust collector with the filter cake on the bags acting as additional SO_2 control.

Using a wet scrubber in addition with the naturally occurring dry scrubbing, an overall SO_2 removal efficiency of 99% could be achieved. However, the costs of installing and operating a wet scrubbing system with a guaranteed removal efficiency of 99% make this option economically infeasible; $3689 per ton of SO_2 removed by the scrubber based upon vendor quotes. This does not include the additional costs of treating the scrubber effluent. Additionally, there will be adverse impacts to the environment from treating and disposing of the scrubbing agents. Due to the environmental and economic concerns, the combination of the wet and the dry scrubbing are eliminated from consideration as BACT. Also, if a wet scrubber is used, Arkansas Lime would be unable to sell the lime dust which is captured by the control device. Arkansas Lime recognizes that a few other facilities listed in the RBLC are using wet scrubbers to control emissions from their lime kilns. One of the facilities listed as using a wet scrubber is limited to only using a low sulfur coal as fuel (which was deemed economically infeasible for Arkansas Lime), while the permittee is allowed to use a fuel mix of coal, coke, and natural gas with a sulfur content not to exceed 3% on a 30-day rolling average. Several kilns of similar size are using baghouses to aid in the removal of the sulfur dioxide emissions.

Natural dry scrubbing will occur in the kiln with the lime dust acting as the scrubbing agent. Further dry scrubbing will occur as the exhaust stream passes through a baghouse. Approximately 92% - 95% of the sulfur dioxide created by the fuel combustion will be removed in this scenario. The clearinghouse indicated that this type of control system has been accepted as BACT for several other facilities. Therefore, the dry scrubbing with a baghouse is chosen as BACT for the sulfur dioxide emissions from the lime kiln.

BACT analysis for NO_X from the Rotary Lime Kiln

Several different control technologies were considered for the oxides of nitrogen emissions from the rotary lime kiln. These technologies included the following:

1. Non-Selective Non-Catalytic Reduction (NSNCR)
2. Oxidation/Reduction Scrubbing (O/R)
3. Selective Catalytic Reduction (SCR)
4. Selective Non-Catalytic Reduction (SNCR)
5. Low NO_X Burners
6. Proper Kiln Design and Operation (Base Case)

Item #1 (NSNCR) was the only option not considered to be technically feasible. Currently, only a few cement kilns and no lime kilns are using this technology. NSNCR, also referred to sometimes as either staged air combustion or staged fuel combustion, requires a multi-stage preheater and cyclones. Generally, lime kilns do not have either a multi-stage preheater or any cyclones while some cement kilns do. Due to process differences between cement kilns and lime kilns, this technology has not been applied to lime kilns.

After discarding the technically infeasible option, Arkansas Lime then ranked the remaining control technologies according by effectiveness. In the list above, the remaining technologies are listed in order from highest control efficiency to lowest beginning with item #2. These options were then evaluated on the basis of economic, energy, and environmental concerns. The O/R scrubbing has a theoretical NO_X removal efficiency of 90%. However, the capital costs for such a system are extensive. The costs for O/R scrubbing are economically prohibitive for the proposed kiln ($7,118 per ton of NO_X removed). This technology is not listed in the RBLC and has not been proven effective in controlling NO_X emissions from a rotary lime kiln. Therefore, O/R scrubbing is not considered BACT for the NO_X emissions from the rotary lime kiln.

The SCR has a theoretical NO_X removal efficiency of 70% to 90%. The capital costs for this type of control technology are also extensive. Environmental concerns are also a factor in this technology as it would require the storage and use of large quantities of ammonia. Any accidents concerning this system could be hazardous to nearby communities. Also, the use and possible emissions of ammonia could be subject to numerous other state and federal requirements. To date, there have been no experimental attempts to apply this technology to lime kilns. Accordingly, this technology is not listed in the clearinghouse for lime kilns. Due to economic ($4,763 per ton of NO_X removed) and environmental concerns, SCR is not considered BACT for the NO_X emissions from the rotary lime kiln.

The SNCR has a theoretical NO_X removal efficiency of 40% to 70%. The required temperature for the reaction does occur in the lime kiln preheater. However, normal operations of the preheater will result in large temperature variations which will make it an unsuitable location for a reaction with a narrow temperature range. Extensive costs are also associated with this control technology ($5,574 per ton of NO_X removed). This technology is not listed in the clearinghouse and there is no reported case of a full-scale application for lime kilns. Therefore, SNCR is not considered BACT for the NO_X emissions from the rotary lime kiln.

Low NO_X burners for lime kilns have a theoretical NO_X removal efficiency of up to 30%. Three different types of low NO_X burners for cement kilns have been tested by Lafarge Corporation's Meknes, Morocco facility. Two burners showed significant NO_X reductions. However, one of the burners was removed after a month due to refractory damage in the burn zone and problems with clogging in the feed end due to high sulfur volatilization in the burn zone. Low NO_X burners have also been used in cement kilns in Germany. About half of the kilns showed reductions of 10 to 30 percent while the other half showed no significant decreases. Low NO_X burners can only be used on indirect-fired kilns. The proposed kiln is a direct fired kiln. Indirect-fired kilns transfer the pulverized coal to an intermediate area and then transfer that coal to the kiln. Direct-fired kilns use the grinding mill ventilation to transfer the pulverized coal to

the burner. Currently, only a few lime kilns are indirect-fired and vendors generally will not guarantee any NO_X reductions above a traditional design. As such, this technology cannot be considered proven in the lime kiln industry. Due to the lack of evidence of practical feasibility of this technology for lime kilns, low NO_X burners are not considered BACT for the NO_X emissions from the rotary lime kiln. Also, the NO_X limit for the rotary lime kiln is in line with the NO_X limits for similar facilities without the use of low NO_X burners.

Proper kiln design and operation will lead to reduced fuel consumption which in turn will lead to lower NO_X emissions. Proper operation of the kiln will include minimizing excess air and therefore minimizing emissions. The kiln will be equipped with a dynamic classifier for finer grinding of the fuel and a multi-channel burner which allows for improved fuel and air mixing. Both of these design features prevent the formation of excessively high temperature zones and thereby help to minimize thermal NO_X formation. Proper kiln design and operation are considered BACT by all recent determinations in the clearinghouse. Considering these factors and the high cost of alternatives, proper kiln design and operation is deemed BACT for the NO_X emissions from the rotary lime kiln.

A search of the RACT/BACT/LAER Clearinghouse revealed that all recent BACT determinations were proper kiln design and operation. The Clearinghouse did list many BACT limits which are lower than Arkansas Lime's limit. The Department and the permittee contacted the environmental regulatory agencies in the states where these facilities were located. It was determined that the lower BACT limit of 2.0 lb/ton was not being met and that higher limits were being requested. The search also revealed that similar size kilns were able to meet a BACT limit of 3.5 lb/ton. Based on the research, a BACT limit of 3.5 lb/ton has been given to Arkansas Lime Company.

BACT SUMMARY

Pollutant	BACT Limit	BACT Determination
SO_2	3% by weight sulfur in fuel on a 30-day rolling average	natural dry scrubbing in kiln and in baghouse
NO_X	3.5 lb NO_X per ton of lime produced on a 30-day rolling average	proper kiln design and operation

AMBIENT AIR IMPACT ANALYSIS

An air dispersion modeling analysis is a required part of a PSD permit application. The air dispersion modeling analysis is used to demonstrate that the emissions resulting from a proposed modification will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or surpass a PSD increment. The USEPA requires that PSD modeling be performed in two stages: the significance analysis and the full impact analysis. The full impact analysis is further divided into the NAAQS and PSD Increment analyses.

SIGNIFICANCE ANALYSIS

The significance analysis considers the emission increases associated with the proposed modifications at Arkansas Lime in order to determine whether or not the modifications will have a significant impact upon the area surrounding the facility. If the results of the significance analysis are above the Modeling Significance Levels (MSLs), the full impact analysis will be required for that pollutant. In addition, if the results of the significance analysis are above the Monitoring De Minimis Concentration, PSD ambient monitoring requirements must also be addressed for that pollutant.

The PSD ambient monitoring is used to establish background air quality concentrations in the vicinity of the proposed sources. The Monitoring De Minimis Concentrations establish levels at which a facility would need to conduct pre-construction ambient air quality monitoring.

The results of the significance analysis are contained in the following table. As can be seen, the Modeling Significance Levels were exceeded although the PSD Monitoring De Minimis Concentrations were not.

Maximum Predicted Concentrations in Comparison with
Modeling Significance Levels and Monitoring De Minimis Concentrations

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	PSD Modeling Significance Level ($\mu g/m^3$)	PSD Monitoring De Minimis Concentrations ($\mu g/m^3$)
SO_2	3-hour	47.5	25	--
	24-hour	10.2	5	13
	Annual	2.0	1	--
NO_X	Annual	2.84	1	14

AMBIENT MONITORING

Since the significance analysis predicted concentrations are below the Monitoring De Minimis Levels, Arkansas Lime was not required to address ambient monitoring requirements.

FULL IMPACT ANALYSIS

Since the emission increases associated with the proposed modification are shown to have a potentially significant impact (i.e., ambient concentrations exceed MSLs), a full impact analysis is conducted. The full impact analysis consists of a NAAQS and PSD Increment compliance demonstration.

NAAQS ANALYSIS

The NAAQS are maximum concentration "ceilings" measured in terms of the total concentration of a pollutant in the atmosphere. In the NAAQS analysis, Arkansas Lime's emissions are combined with those from other nearby sources that have the potential to contribute significantly to receptors within Arkansas Lime's Radius of Impact (ROI).

Arkansas Lime obtained emissions data and release parameters for these other sources from the Department. A screening technique, referred to as the "20-D Rule," was used to determine which sources have the potential to significantly impact receptors within Arkansas Lime's ROI. The 20-D Rule screening approach is used only to exclude sources located outside the area of significant impact (i.e., the ROI), but within 50 km of that area and does so only if the entire source's emissions in tons per year are less than the product of 20 and the distance in km from the facility to the area of significant impact.

Once the 20-D screening analysis is completed, all remaining sources and the proposed increases are modeled. The resulting impacts are summed with a representative background concentration and then are compared to the corresponding NAAQS to demonstrate compliance with these criteria. The results of the NAAQS analysis are contained in the following table. As can be seen, no NAAQS are exceeded.

Modeled Concentration with Background
in Comparison with the NAAQS

Pollutant	Averaging Period	Modeled Concentration with Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
SO_2	3-hour[1]	768	1,300
	24-hour[1]	159.6	365
	Annual[2]	23.96	80
NO_X	Annual[2]	16.01	100

1. Highest, 2nd Highest Concentration
2. Highest

PSD INCREMENT ANALYSIS

A PSD Increment is the maximum allowable increase in concentration that is allowed to occur in a given area above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and relevant averaging time and is the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted. It is important to note, however, that air quality cannot deteriorate beyond the concentration allowed by the applicable NAAQS, even if not all of the PSD Increment is consumed. PSD Increments have been established for both SO_2 and NO_X. In the PSD Increment analysis, creditable emissions increases and decreases from all increment-affected sources located within the baseline area established for each pollutant are modeled with Arkansas Lime's net emission increases to demonstrate compliance with the corresponding PSD Increments.

For the PSD Increment analysis, a historical review of the emission changes occurring since the major source baseline dates was performed. The major source baseline dates are August 7, 1977, for SO_2 and February 8, 1988 for NO_X. In Independence County, the minor source baseline dates were triggered on October 13, 1977, for SO_2 and on January 14, 1991, for NO_X. Any emission changes associated with construction at Arkansas Lime or a major source between the major source and the minor source baseline dates would consume Increment. All emission increases and decreases at Arkansas Lime and any other source in Independence County since the applicable minor source baseline date will consume increment in Independence County. Additionally, nearby sources in other counties (if they are within Arkansas Lime's ROI) may affect PSD Increment in Independence County.

Arkansas Lime obtained an inventory of sources which could potentially affect the PSD Increment in Independence County from the Department. Sources in the inventory having a negligible effect on Arkansas Lime's significant receptors were screened using the "20-D Rule."

Arkansas Lime excluded all but seven sources using the 20-D Rule. These sources were included in the PSD Increment modeling (ISCST3 model). Two sources were not included in the CTSCREEN analysis (see discussion on CTSCREEN use below) due to source stack height or distance from Arkansas Lime. The results of the PSD Increment analysis are contained in the following table.

Maximum Predicted Increment Consumed
in Comparison with the PSD Increment

Pollutant	Averaging Period	Maximum Modeled Increment Consumed, $\mu g/m^3$	Total PSD Increment, $\mu g/m^3$	% of Total Increment Consumed
SO_2	3-hour[1]	110	512	21.5
	24-hour[1]	25.1	91	27.6
	Annual[2]	2.42	20	12.1
NO_X	Annual[2]	2.61	25	10.4

1. Highest, 2nd Highest Concentration
2. Highest

CLASS I AREA IMPACT ANALYSIS

The PSD Regulations require that written notification be provided to the Federal Land Manager in the event that a major source or modification is located within 100 kilometers of a Class I Area. Arkansas Lime Company is located over 150 kilometers from the nearest Class I Area. Therefore, neither notification to the Federal Land Manager nor a Class I Area Impact Analysis is required.

ADDITIONAL IMPACTS REVIEW

Three areas constitute the Additional Impacts Review: a growth analysis, a soils and vegetation analysis, and a visibility analysis.

The growth analysis includes a projection of the associated industrial, commercial, and residential growth that will occur in the area as a result of the source. The potential impact on the ambient air due to the growth is also a part of the analysis. The proposed project outlined in this application is largely a modernization project which is not expected to require that additional people be hired. Therefore, any industrial, commercial, and residential growth associated with this project will be negligible. No appreciable increase in emissions is expected as a result of any growth which might be associated with the proposed project.

A study was conducted by the permittee which did not identify any sensitive aspects of the soil and the vegetation in the area surrounding the plant. Therefore, the secondary NAAQS, which establish the ambient concentration below which no harmful effects to either soil or vegetation can be expected, are used as an indicator of potentially adverse impacts. The maximum sulfur dioxide impact on a 3-hour average, including the background concentration, was determined to be 768 $\mu g/m^3$, well below the secondary NAAQS standard of 1,300 $\mu g/m^3$ on a 3-hour average. The maximum oxides of nitrogen impact on an annual average, including the background concentration was determined to be 16.0 $\mu g/m^3$, well below the secondary NAAQS standard of 100 $\mu g/m^3$ on an annual average.

Three levels of visibility screening procedures are outlined by the U.S. E.P.A. If the criteria for the first, most conservative, screening level are met, no further analysis is required. The VISCREEN model is recommended for the Level 1 screening. If calculated values from the VISCREEN model are greater than the standardized screening values, the emissions are judged to have the potential for visibility impairment. If the potential for visibility impairment is indicated, a Level 2 analysis is required. The results of the Level 1 screening indicate that no visibility impairment will result from the modifications described in this application. Therefore, no additional analysis is required.

APPENDIX G

PSD Information for Permit 0045-AOP-R2

PREVENTION OF SIGNIFICANT DETERIORATION
For Permit 0045-AOP-R2

General Information

Arkansas Lime Company is proposing to install a second 625 tpd rotary lime kiln at its quarry near Batesville. Due to the installation of the new kiln, Arkansas Lime is also proposing to install a new lime product cooler, a new lime product silo dust collector, a new limestone conveyor belt, and a new conveyor belt at the coal/coke preparation plant. This facility will be increasing its annual permitted process rates at certain sources as follows:

SN	Description	Old Process Rate, tpy	New Process Rate, tpy
01Q	Primary Crusher	949,000	1,300,000
02Q	Secondary Crusher	1,200,000	1,640,000
03Q	Triple Deck Screen	2,149,000	3,362,000
08Q	Top Bench Screen	100,000	120,000
09Q	PLS/Ag-Lime Screen	600,000	822,000
10Q	Kiln Feed Screen	700,000	900,000

Changes in annual emission rates are used to determine PSD applicability. The changes in annual emission rates are calculated based on the difference between the average emission levels for the two years prior to the modification (1998 and 1999) and the maximum annual potential emissions after the proposed modification.

A net emissions increase is determined by taking the emissions increase associated with the proposed modification, subtracting source-wide creditable contemporaneous decreases and then adding source-wide creditable contemporaneous emission increases. An emissions increase or decrease is creditable only if the reviewing authority has not relied on it in issuing a PSD permit for the source and the permit is still in effect when the increase in actual emissions from the proposed modification occurs. To be contemporaneous, changes in actual emissions must occur within a period beginning five years prior to the date construction is expected to commence and ending when the emissions increase from the modification occurs. Each increase or decrease is calculated as the difference between the new allowable emission rate and either the old level of actual emissions or allowable emissions, whichever is lower.

The net emission increases of total suspended particulate, particulate matter with a diameter less then 10 microns, sulfur dioxide, and oxides of nitrogen will exceed the PSD Significant Increases. The PSD Significant Increase Level for carbon monoxide will not be exceeded although there is a net emission increase of this pollutant. Permitted emissions of VOCs will be increasing. Although VOCs are included in the table below, the total emission increase for VOCs was lower than the PSD Significant Emission Increase Level so no netting was performed for this pollutant. A summary of the net emission increases may be found in the following table.

Pollutant	Net Emission Increase (tpy)	PSD Significant Emission Increase (tpy)
TSP	75.2	25.0
PM_{10}	29.7	15.0
SO_2	227.0	40.0
VOC	14.2*	40.0
CO	47.6	100.0
NO_X	399.0	40.0

*Netting was not performed as the total emission increase of VOC is less than the PSD Significant Emission Increase Level.

BACT ANALYSIS

For a PSD permit, the applicant must perform a BACT analysis for each new unit. The applicant must perform a BACT analysis for each affected unit that is undergoing a physical change or change in the method of operation. The BACT evaluation must address each pollutant subject to PSD review emitted by the unit. BACT is determined on a case-by-case basis for each source taking into account technical feasibility, energy and environmental impacts, and cost in a top-down approach. That is, after discarding the technically infeasible options, the applicant must consider the remaining technologies in order of control efficiency and document any findings which results in not using the most effective control technology.

BACT analyses were conducted for the TSP, the PM_{10}, the SO_2, and the NO_X emissions from the new rotary lime kiln (source SN-24Q). BACT analyses were also performed for the TSP and the PM_{10} emissions from the lime product cooler (source SN-25Q), the lime product silo dust collector (source SN-26Q), the kiln feed belt into Kiln #2 surge bin (source SN-27Q), and the incline belt to #1 and #2 fuel surge bins (source SN-28Q). A description of these BACT analyses may be found on the following pages.

BACT analysis for TSP and PM_{10} from the #2 Rotary Lime Kiln (SN-24Q)

For control of particulate matter from the lime kiln, Arkansas Lime considered a dust collector (i.e., baghouses), an electrostatic precipitator (ESP), a wet scrubber, and a cyclone. Of these options, the dust collector was determined to have the highest control efficiency (99.9%) with the ESP having a PM control efficiency of 99.5% and the other two options each having a control efficiency of 90%.

The dust collector removes pollutants from the exhaust gas by drawing the dust-laden air through a bank of filter tubes or bags suspended in a housing. A filter "cake" composed of the removed particulate builds up on the "dirty" side of the collector. Periodically, the cake is removed through physical mechanisms which cause the cake to fall. The dust is then collected in a hopper and removed.

A dust collector is chosen as BACT for TSP and PM_{10} control from the lime kiln. In accordance with U.S. EPA guidance, the remaining control options are not considered further in the BACT analysis for the lime kiln since the highest efficiency control device is being selected.

BACT analysis for SO_2 from the #2 Rotary Lime Kiln (SN-24Q)

Arkansas Lime considered several different fuel mixtures prior to considering further control technology. These fuel mixes included burning only natural gas or coal/coke blends with varying sulfur contents. Although the use of natural gas would significantly reduce the emissions from the rotary lime kiln, it was deemed as unusable on a continual basis. The cost of natural gas per MMBTU is higher than that of coal and coke. Also, the permittee would not be able to produce as much lime if natural gas were to be the primary fuel used to fire the kiln. The low sulfur fuel blends were also determined to be economically infeasible. Therefore, when control technologies were considered, the pre-control emissions were calculated using a fuel blend with a sulfur content of 4.0% by weight for the short term (hourly) emissions and 3% by weight on a 30-day rolling average. Other lime kilns at similar facilities use a coal/coke blend in conjunction with a limited amount of natural gas as the primary fuel. No kilns at similar facilities were found to use only natural gas as the primary fuel.

The lime dust in the kiln acts as a dry scrubbing medium for sulfur dioxide. Arkansas Lime Company examined two technically feasible control technologies for the sulfur dioxide emissions from the lime kiln in addition to the dry scrubbing which occurs naturally in the kiln. The first was the use of a wet scrubber while the second was the use of a dust collector with the filter cake on the bags acting as additional SO_2 control.

Using a wet scrubber in addition with the naturally occurring dry scrubbing, an overall SO_2 removal efficiency of 99% could be achieved. However, the costs of installing and operating a wet scrubbing system with a guaranteed removal efficiency of 99% make this option economically infeasible; approximately $4700 per ton of SO_2 removed by the scrubber based upon vendor quotes. This does not include the additional costs of treating the scrubber effluent. Additionally, there will be adverse impacts to the environment from treating and disposing of the scrubbing agents. Due to the environmental and economic concerns, the combination of the wet and the dry scrubbing are eliminated from consideration as BACT. Also, if a wet scrubber is used, Arkansas Lime would be unable to sell the lime dust which is captured by the control device. Arkansas Lime recognizes that a few other facilities listed in the RBLC are using wet scrubbers to control emissions from their lime kilns. One of the facilities listed as using a wet scrubber is limited to only using a low sulfur coal as fuel (which was deemed economically infeasible for Arkansas Lime), while the permittee is allowed to use a fuel mix of coal, coke, and natural gas with a sulfur content not to exceed 3% on a 30-day rolling average. Several kilns of similar size are using baghouses to aid in the removal of the sulfur dioxide emissions.

Natural dry scrubbing will occur in the kiln with the lime dust acting as the scrubbing agent. Further dry scrubbing will occur as the exhaust stream passes through a baghouse. Approximately 92% - 95% of the sulfur dioxide created by the fuel combustion will be removed in this scenario. The clearinghouse indicated that this type of control system has been accepted as BACT for several other facilities. Therefore, the dry scrubbing with a baghouse is chosen as BACT for the sulfur dioxide emissions from the lime kiln.

BACT analysis for NO_X from the Rotary Lime Kiln

Several different control technologies were considered for the oxides of nitrogen emissions from the rotary lime kiln. These technologies included the following:

1. Non-Selective Non-Catalytic Reduction (NSNCR)
2. Oxidation/Reduction Scrubbing (O/R)
3. Selective Catalytic Reduction (SCR)
4. Selective Non-Catalytic Reduction (SNCR)
5. Low NO_X Burners
6. Proper Kiln Design and Operation (Base Case)

Item #1 (NSNCR) was the only option not considered to be technically feasible. Currently, only a few cement kilns and no lime kilns are using this technology. NSNCR, also referred to sometimes as either staged air combustion or staged fuel combustion, requires a multi-stage preheater and cyclones. Generally, lime kilns do not have either a multi-stage preheater or any cyclones while some cement kilns do. Due to process differences between cement kilns and lime kilns, this technology has not been applied to lime kilns.

After discarding the technically infeasible option, Arkansas Lime then ranked the remaining control technologies according by effectiveness. In the list above, the remaining technologies are listed in order from highest control efficiency to lowest beginning with item #2. These options were then evaluated on the basis of economic, energy, and environmental concerns.

The O/R scrubbing has a theoretical NO_X removal efficiency of 90%. However, the capital costs for such a system are extensive. The costs for O/R scrubbing are economically prohibitive for the proposed kiln ($8868 per ton of NO_X removed). This technology is not listed in the RBLC and has not been proven effective in controlling NO_X emissions from a rotary lime kiln. Therefore, O/R scrubbing is not considered BACT for the NO_X emissions from the rotary lime kiln.

The SCR has a theoretical NO_X removal efficiency of 70% to 90%. The capital costs for this type of control technology are also extensive. Environmental concerns are also a factor in this technology as it would require the storage and use of large quantities of ammonia. Any accidents concerning this system could be hazardous to nearby communities. Also, the use and possible emissions of ammonia could be subject to numerous other state and federal requirements. To date, there have been no experimental attempts to apply this technology to lime kilns. Accordingly, this technology is not listed in the clearinghouse for lime kilns. Due to economic (5596 per ton of NO_X removed) and environmental concerns, SCR is not considered BACT for the NO_X emissions from the rotary lime kiln.

The SNCR has a theoretical NO_X removal efficiency of 40% to 70%. The required temperature for the reaction does occur in the lime kiln preheater. However, normal operations of the preheater will result in large temperature variations which will make it an unsuitable location for a reaction with a narrow temperature range. Extensive costs are also associated with this control technology ($5254 per ton of NO_X removed). This technology is not listed in the clearinghouse and there is no reported case of a full-scale application for lime kilns. Therefore, SNCR is not considered BACT for the NO_X emissions from the rotary lime kiln.

Low NO_X burners for lime kilns have a theoretical NO_X removal efficiency of up to 30%. Three different types of low NO_X burners for cement kilns have been tested by Lafarge Corporation's Meknes, Morocco facility. Two burners showed significant NO_X reductions. However, one of the burners was removed after a month due to refractory damage in the burn zone and problems with clogging in the feed end due to high sulfur volatilization in the burn zone. Low NO_X burners have also been used in cement kilns in Germany. About half of the kilns showed reductions of 10 to 30 percent while the other half showed no significant decreases. Low NO_X burners can only be used on indirect-fired kilns. The proposed kiln is a direct fired kiln. Indirect-fired kilns transfer the pulverized coal to an intermediate area and then transfer that coal to the kiln. Direct-fired kilns use the grinding mill ventilation to transfer the pulverized coal to the burner. Currently, only a few lime kilns are indirect-fired and vendors generally will not guarantee any NO_X reductions above a traditional design. As such, this technology cannot be considered proven in the lime kiln industry. Due to the lack of evidence of practical feasibility of this technology for lime kilns, low NO_X burners are not considered BACT for the NO_X emissions from the rotary lime kiln. Also, the NO_X limit for the rotary lime kiln is in line with the NO_X limits for similar facilities without the use of low NO_X burners.

Proper kiln design and operation will lead to reduced fuel consumption which in turn will lead to lower NO_X emissions. Proper operation of the kiln will include minimizing excess air and therefore minimizing emissions. The kiln will be equipped with a dynamic classifier for finer grinding of the fuel and a multi-channel burner which allows for improved fuel and air mixing. Both of these design features prevent the formation of excessively high temperature zones and thereby help to minimize thermal NO_X formation. Proper kiln design and operation are considered BACT by all recent determinations in the clearinghouse. Considering these factors and the high cost of alternatives, proper kiln design and operation is deemed BACT for the NO_X emissions from the rotary lime kiln.

A search of the RACT/BACT/LAER Clearinghouse revealed that all recent BACT determinations were proper kiln design and operation. The Clearinghouse did list many BACT limits which are lower than Arkansas Lime's limit. The Department and the permittee contacted the environmental regulatory agencies in the states where these facilities were located. It was determined that the lower BACT limit of 2.0 lb/ton was not being met and that higher limits were being requested. The search also revealed that similar size kilns were able to meet a BACT limit of 3.5 lb/ton. Based on the research, a BACT limit of 3.5 lb/ton has been given to Arkansas Lime Company.

BACT analysis for TSP and PM_{10} from the #2 Lime Product Cooler (SN-25Q)

Arkansas Lime Company considered fabric filter or baghouse-type dust collectors and ESPs for BACT from the #2 Lime Product Cooler. Water sprays were also considered for this source. However, it was determined to be technically infeasible when considering the desired end product of the operation. Lime and water react exothermically when they come into contact and form hydrated lime. Hydrated lime has different physical applications and properties than lime.

ESPs are capable of achieving the same control efficiency as baghouses. However, ESPs were ruled out as BACT because ESPs are highly sensitive to changes in the gas stream conditions. Certain particulates are difficult to collect due to extremely high or low resistivity characteristics; therefore, the collection efficiency may be widely variable if the composition of the dust in the gas stream varies. ESPs also require more space to install, specialized maintenance personnel, and special safety precautions which are not needed with fabric filter or baghouse-type dust collectors.

Arkansas Lime Company proposes to use a dust collector with an efficiency of at least 99%. This is currently accepted as best industry practice for particulate control. A BACT limit of 0.015 grains per dry standard cubic foot of air has been assigned to this source.

BACT analysis for TSP and PM_{10} from the #2 Lime Product Silo (SN-26Q)

Arkansas Lime Company considered fabric filter or baghouse-type dust collectors and ESPs for BACT from the #2 Lime Product Silo. Water sprays were also considered for this source. However, it was determined to be technically infeasible when considering the desired end product of the operation. Lime and water react exothermically when they come into contact and form hydrated lime. Hydrated lime has different physical applications and properties than lime.

EPPs are capable of achieving the same control efficiency as baghouses. However, ESPs were ruled out as BACT because ESPs are highly sensitive to changes in the gas stream conditions. Certain particulates are difficult to collect due to extremely high or low resistivity characteristics; therefore, the collection efficiency may be widely variable if the composition of the dust in the gas stream varies. ESPs also require more space to install, specialized maintenance personnel, and special safety precautions which are not needed with fabric filter or baghouse-type dust collectors.

Arkansas Lime Company proposes to use a dust collector with an efficiency of at least 99%. This is currently accepted as best industry practice for particulate control. A BACT limit of 0.015 grains per dry standard cubic foot of air has been assigned to this source. It is recognized that three sources in the RBLC have grain loading factors lower than what has been given to Arkansas Lime. Of these three silos, two have not been constructed. The third silo has been constructed but had not been proven to meet the limit by February 2000.

BACT analysis for TSP and PM_{10} from the Kiln Feed Belt into the #2 Kiln Surge Bin (SN-27Q)

Arkansas Lime Company is not proposing any additional controls for this source. Water sprays are located upstream and the slight vacuum at the kiln preheater opening will prevent excess emissions from this source. Due to the low emission rates with the water sprays upstream and the slight vacuum, the BACT proposal was accepted.

BACT analysis for TSP and PM_{10} from the Incline Belt to #1 and #2 Fuel Surge Bins (SN-28Q)

Possible control options for the incline belt to #1 and #2 fuel surge bins include water sprays, enclosures, and dust collectors. Water sprays were deemed to be technically infeasible for this source. Water sprays on the solid fuel handling points downstream of the fuel storage piles are considered technically infeasible because water will decrease the effectiveness of coal and coke as fuel.

Arkansas Lime Company is proposing to use a fabric-filter type dust collector with enclosures where applicable in order to minimize emissions from this source. A BACT limit of 0.015 grains per dry standard cubic foot of air has been assigned to this source. It is recognized that four baghouses on similar sources listed in the RBLC have lower grain loading factors than this baghouse. However, two of the baghouses have the grain loading factor based on actual cubic feet of air. If the grain loading factors were to be calculated on the basis of dry standard cubic feet of air they would be higher. The other two sources have not yet been constructed.

BACT SUMMARY

SN	Pollutant	BACT Limit	BACT Determination
24Q	TSP, PM_{10}	0.015 gr/dscf	baghouse-type dust collector
24Q	SO_2	3% by weight sulfur in fuel on a 30-day rolling average	natural dry scrubbing in kiln and in baghouse
24Q	NO_X	3.5 lb NO_X per ton of lime produced on a 30-day rolling average	proper kiln design and operation
25Q	TSP, PM_{10}	0.015 gr/dscf	baghouse-type dust collector

SN	Pollutant	BACT Limit	BACT Determination
26Q	TSP, PM_{10}	0.015 gr/dscf	baghouse-type dust collector
27Q	TSP, PM_{10}	0.1 lb/hr - TSP 0.1 lb/hr - PM_{10}	water spray upstream and surge bin vacuum
28Q	TSP, PM_{10}	0.015 gr/dscf	fabric filter type dust collector

AMBIENT AIR IMPACT ANALYSIS

An air dispersion modeling analysis is a required part of a PSD permit application. The air dispersion modeling analysis is used to demonstrate that the emissions resulting from a proposed modification will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or surpass a PSD increment. The USEPA requires that PSD modeling be performed in two stages: the significance analysis and the full impact analysis. The full impact analysis is further divided into the NAAQS and PSD Increment analyses.

SIGNIFICANCE ANALYSIS

The significance analysis considers the emission increases associated with the proposed modifications at Arkansas Lime in order to determine whether or not the modifications will have a significant impact upon the area surrounding the facility. If the results of the significance analysis are above the Modeling Significance Levels (MSLs), the full impact analysis will be required for that pollutant. In addition, if the results of the significance analysis are above the Monitoring De Minimis Concentration, PSD ambient monitoring requirements must also be addressed for that pollutant.

The PSD ambient monitoring is used to establish background air quality concentrations in the vicinity of the proposed sources. The Monitoring De Minimis Concentrations establish levels at which a facility would need to conduct pre-construction ambient air quality monitoring.

The results of the significance analysis are contained in the following table. As can be seen in the following table , the Modeling Significance Levels were exceeded as well as the PSD Monitoring De Minimis Concentrations for PM_{10}, SO_2, and NO_X.

Maximum Predicted Concentrations in Comparison with
Modeling Significance Levels and Monitoring De Minimis Concentrations

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	PSD Modeling Significance Level ($\mu g/m^3$)	PSD Monitoring De Minimis Concentrations ($\mu g/m^3$)
PM_{10}	24-hour	40.4	5	10
	Annual	5.75	1	--
SO_2	3-hour	48.1	25	--
	24-hour	14.2	5	13
	Annual	2.06	1	--
NO_X	Annual	2.88	1	14

AMBIENT MONITORING

Because the significance analysis predicted concentrations in excess of the Monitoring De Minimis Levels for PM_{10} and SO_2, Arkansas Lime was required to address ambient monitoring requirements. Arkansas Lime requested that they be allowed to use existing monitoring data from a nearby facility in lieu of pre-construction monitoring for sulfur dioxide. For PM_{10}, Arkansas Lime Company requested that they be allowed to use existing monitoring data from the Department's monitor located in Searcy, Arkansas, from the years 1994 through 1998. The five annual averages were averaged while the second highest values were used for the 24-hour averages. The Department has accepted this request and will allow the use of the existing data because of the existing monitor's close proximity to Arkansas Lime. Any monitoring performed at Arkansas Lime should not be significantly different from the existing monitoring. Ambient monitoring data used was collected from June 1, 1997, through May 31, 1998. A summary of the background concentrations obtained from this study are contained in the table below. For completeness, the NO_X background concentration used in the NAAQS analysis has been included in the table below. This data was obtained from the same place and time period as the sulfur dioxide information.

Pollutant	Averaging Period	Maximum Monitored Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	24-hour	45.2	150
	Annual	23.5	50
SO_2	3-hour	567	1,300*
	24-hour	112	365
	Annual	18.6	80
NO_X	Annual	13.4	100

*Secondary NAAQS standard. No primary NAAQS exists for SO_2 on a 3-hour average.

FULL IMPACT ANALYSIS

Since the emission increases associated with the proposed modification are shown to have a potentially significant impact (i.e., ambient concentrations exceed MSLs), a full impact analysis is conducted. The full impact analysis consists of a NAAQS and PSD Increment compliance demonstration.

NAAQS ANALYSIS

The NAAQS are maximum concentration "ceilings" measured in terms of the total concentration of a pollutant in the atmosphere. In the NAAQS analysis, Arkansas Lime's emissions are combined with those from other nearby sources that have the potential to contribute significantly to receptors within Arkansas Lime's Radius of Impact (ROI).

Arkansas Lime obtained emissions data and release parameters for these other sources from the Department. A screening technique, referred to as the "20-D Rule," was used to determine which sources have the potential to significantly impact receptors within Arkansas Lime's ROI. The 20-D Rule screening approach is used only to exclude sources located outside the area of significant impact (i.e., the ROI), but within 50 km of that area and does so only if the entire source's emissions in tons per year are less than the product of 20 and the distance in km from the facility to the area of significant impact.

Once the 20-D screening analysis is completed, all remaining sources and the proposed increases are modeled. The resulting impacts are summed with a representative background concentration and then are compared to the corresponding NAAQS to demonstrate compliance with these criteria.

The results of the NAAQS analysis are contained in the following table. As can be seen, no NAAQS are exceeded. The 3-hour average SO_2 concentration has remained unchanged from the previous permit because the receptor at which this concentration was predicted was not impacted by Arkansas Lime Company during the 3-hour period when the maximum 3-hour concentration occurred, i.e., emissions from another nearby facility caused the maximum 3-hour impact. This modeling analysis includes the changes which were authorized under #45-AOP-R1 as well as the changes being authorized under this permit.

Modeled Concentration with Background
in Comparison with the NAAQS

Pollutant	Averaging Period	Modeled Concentration with Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	24-hour[3]	139.0	150
	Annual[2]	47.9	50
SO_2	3-hour[1]	768.0	1,300
	24-hour[1]	160.0	365
	Annual[2]	24.0	80
NO_X	Annual[2]	18.7	100

1. Highest, 2nd Highest Concentration
2. Highest
3. Fourth Highest

PSD INCREMENT ANALYSIS

A PSD Increment is the maximum allowable increase in concentration that is allowed to occur in a given area above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and relevant averaging time and is the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted. It is important to note, however, that air quality cannot deteriorate beyond the concentration allowed by the applicable NAAQS, even if not all of the PSD Increment is consumed. PSD Increments have been established for both SO_2 and NO_X. In the PSD Increment analysis, creditable emissions increases and decreases from all increment-affected sources located within the baseline area established for each pollutant are modeled with Arkansas Lime's net emission increases to demonstrate compliance with the corresponding PSD Increments.

For the PSD Increment analysis, a historical review of the emission changes occurring since the major source baseline dates was performed. The major source baseline dates are August 7, 1977, for PM_{10} and SO_2 and February 8, 1988 for NO_X. In Independence County, the minor source baseline dates were triggered on October 13, 1977, for SO_2 and on January 14, 1991, for NO_X. Any emission changes associated with construction at Arkansas Lime or a major source between the major source and the minor source baseline dates would consume Increment. All emission increases and decreases at Arkansas Lime and any other source in Independence County since the applicable minor source baseline date will consume increment in Independence County. Additionally, nearby sources in other counties (if they are within Arkansas Lime's ROI) may affect PSD Increment in Independence County.

Arkansas Lime obtained an inventory of sources which could potentially affect the PSD Increment in Independence County from the Department. Sources in the inventory having a negligible effect on Arkansas Lime's significant receptors were screened using the "20-D Rule." Arkansas Lime excluded all but seven sources using the 20-D Rule. These sources were included in the PSD Increment modeling (ISCST3 model). Two sources were not included in the

CTSCREEN analysis (see discussion on CTSCREEN use below) due to source stack height or distance from Arkansas Lime. The results of the PSD Increment analysis are contained in the following table. The 3-hour average and the 24-hour average for the sulfur dioxide increment consumed have remained unchanged from the previous permit because Arkansas Lime did not have an impact at the receptors at which those concentrations were predicted.

Maximum Predicted Increment Consumed
in Comparison with the PSD Increment

Pollutant	Averaging Period	Maximum Modeled Increment Consumed, $\mu g/m^3$	Total PSD Increment, $\mu g/m^3$	% of Total Increment Consumed
PM_{10}	24-hour[1]	29.1	30	97
	Annual	5.81	17	34.2
SO_2	3-hour[1]	110	512	21.5
	24-hour[1]	25.1	91	27.6
	Annual[2]	3.81	20	19.1
NO_X	Annual[2]	5.29	25	21.2

1. Highest, 2nd Highest Concentration
2. Highest

Because the PSD Increment Modeling predicted that more than 80% of the 24-hour average PSD Increment could be consumed, Arkansas Lime was required to assess the effects that the proposed consumption could have upon the industrial and the economic development within the area of the proposed source and to examine alternatives to such consumption, including alternative siting of the proposed source or portions thereof.

There are only three non-boundary and three boundary receptors that show PSD Increment consumption to be in excess of 80%. No receptors on the coarse grid showed PSD Increment consumption to be in excess of 80%. Since the fine receptor grid receptors only extend approximately one kilometer in each direction from the plant boundary, evaluation of the impacts on the coarse grid is a more accurate assessment of how PSD Increment consumption will affect existing or future industrial sites. The coarse grid impacts are more important in rural areas because industrial sources are generally located further apart than in an urban setting.

The highest-second-high impact on the coarse grid was 17.9 $\mu g/m^3$, which is approximately 60% of the 24-hour PSD Increment. The two highest second-highs are located less than one kilometer from the plant boundary. No other industrial sources are expected to locate in the rural area near Arkansas Lime. The nearest developed area (Batesville) is approximately 5 kilometers from the #2 Kiln stack. The PSD Increment consumption in this area is on the order of 0.5 - 1.0 $\mu g/m^3$. Therefore, industrial growth in the Batesville area will not be hindered because of the PSD Increment consumption associated with this project.

Alternative siting options for the lime plant are limited due to the nature of the lime production process. The nature of the lime production process dictates that the sources be located near the mineral source (i.e., near the limestone quarry). The location of the sources associated with this project were optimized considering terrain, location of public roads, environmental impact, and proximity to the quarry and associated limestone processing areas.

CLASS I AREA IMPACT ANALYSIS

The PSD Regulations require that written notification be provided to the Federal Land Manager in the event that a major source or modification is located within 100 kilometers of a Class I Area. Arkansas Lime Company is located over 150 kilometers from the nearest Class I Area. Therefore, neither notification to the Federal Land Manager nor a Class I Area Impact Analysis is required.

ADDITIONAL IMPACTS REVIEW

Three areas constitute the Additional Impacts Review: a growth analysis, a soils and vegetation analysis, and a visibility analysis.

The growth analysis includes a projection of the associated industrial, commercial, and residential growth that will occur in the area as a result of the source. The potential impact on the ambient air due to the growth is also a part of the analysis. The proposed project outlined in this application is largely a modernization project which is not expected to require that additional people be hired. Therefore, any industrial, commercial, and residential growth associated with this project will be negligible. No appreciable increase in emissions is expected as a result of any growth which might be associated with the proposed project.

A study was conducted by the permittee which did not identify any sensitive aspects of the soil and the vegetation in the area surrounding the plant. Therefore, the secondary NAAQS, which establish the ambient concentration below which no harmful effects to either soil or vegetation can be expected, are used as an indicator of potentially adverse impacts. The maximum sulfur dioxide impact on a 3-hour average, including the background concentration, was determined to be 768 $\mu g/m^3$, well below the secondary NAAQS standard of 1,300 $\mu g/m^3$ on a 3-hour average. The maximum oxides of nitrogen impact on an annual average, including the background concentration was determined to be 18.7 $\mu g/m^3$, well below the secondary NAAQS standard of 100 $\mu g/m^3$ on an annual average. Particulate matter emissions and subsequent impacts are not noted to have any specific harmful effects on soil or vegetation. Furthermore, as demonstrated in the air quality analysis, the maximum ground-level concentrations associated with this permit application are all less than the primary and secondary NAAQS. Thus, it can be concluded that the proposed project will not have an adverse impact upon local soils and vegetation, and no additional analysis is required.

Three levels of visibility screening procedures are outlined by the U.S. E.P.A. If the criteria for the first, most conservative, screening level is met, no further analysis is required. The VISCREEN model is recommended for the Level 1 screening. If calculated values from the VISCREEN model are greater than the standardized screening values, the emissions are judged

to have the potential for visibility impairment. If the potential for visibility impairment is indicated, a Level 2 analysis is required. The results of the Level 1 screening indicate that no visibility impairment will result from the modifications described in this application. Therefore, no additional analysis is required.

APPENDIX H

PSD Information for Permit 0045-AOP-R3

PREVENTION OF SIGNIFICANT DETERIORATION
For Permit 0045-AOP-R3

General Information

One definition of a major stationary source under the PSD regulations is any source that emits or has the potential to emit over 100 tons per year of at least one criteria pollutant and is one of the 28 specifically listed industrial source categories. Lime plants are on the list of specified industrial sources and therefore, Arkansas Lime is a PSD major stationary source since it has the potential to emit over 100 tons per year of at least one criteria pollutant.

A major modification is defined as a physical change or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant regulation under the Clean Air Act. A significant net emissions increase is defined by the PSD regulation for each pollutant.

If a proposed modification (considered by itself) at an existing major source results in a significant emissions increase, emissions netting is required to quantify the net emissions change. Emissions netting considers the contemporaneous emissions increased and decreases for comparison to the PSD significant emission rates. The following table lists the emissions increases, net increases if over the significant emission rate, and significance rates for the PSD pollutants emitted by Arkansas Lime:

PSD Applicability Table				
Pollutant	Permitted Emission Increase (tpy)	PSD Significant Emission Rate (tpy)	Net Emissions Increase (tpy)	PSD Review Required?
PM	38.6	25.0	41.88	Yes
PM_{10}	36.3	15.0	39.6	Yes
SO_2	142.0	40.0	142.0	Yes
VOC	14.7	40.0	Not required	No
CO	342.0	100.0	388.0	Yes
NO_X	399.0	40.0	399.0	Yes

The Kiln 3 project will result in increased emissions of the following PSD-regulated air pollutants: Particulate matter (PM), PM less than or equal to 10 microns in diameter (PM_{10}), nitrogen oxides (NO_X), sulfur dioxide (SO_2), carbon monoxide (CO), and volatile organic compounds (VOC). Associated emissions increases of PM and PM_{10} will also occur from unmodified units that experience an increase in operating rate as a result of this project. The net emissions increases of PM, PM_{10}, NO_X, SO_2, and CO are greater

than their respective significant emissions rates. The proposed increase in VOC emissions does not exceed the significant emission rate.

BACT Analysis

A Best Available Control Technology (BACT) analysis is required for each new or physically modified emissions unit for each pollutant that exceeds an applicable PSD significant emission rate. Since the PM, PM_{10}, NO_X, SO_2, and CO emissions changes exceed the PSD significance levels, a BACT analysis is required to assess the necessary level of control for these pollutants. For this BACT analysis, PM_{10} was evaluated jointly with PM. No BACT analysis is required for VOC because emissions did not exceed the significance level.

In a memorandum dated December 1, 1987, the U.S. EPA stated its preference for a "top-down" analysis. The first step in this approach is to determine, for the emissions unit and pollutant in question, the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically or economically infeasible for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level cannot be eliminated by any substantial or unique technical, environmental, or economic objections. The steps can be summarized as follows:

1. Identify all control technologies,
2. Eliminate technically infeasible options,
3. Rank remaining control technologies by control effectiveness,
4. Evaluate most effective controls and document results, and
5. Select BACT.

In evaluating BACT for this project, Arkansas Lime has grouped the sources into two categories, the Lime Kiln and all other particulate sources.

BACT Analysis for the Lime Kiln

The first step is identifying possible control technologies. The following table lists the strategies available for the Lime Kiln:

Pollutant	Control Technologies Available
PM_{10}/TSP	Dust Collector ESP Wet Scrubber Cyclone
SO_2	Wet Scrubber Dust Collector (Dry Scrubbing)*
CO	Catalytic Incineration Thermal Oxidation Excess Air Proper Kiln Design and Operation

Pollutant	Control Technologies Available
NO_x	Oxidation/Reduction Scrubbing Selective Catalytic Reduction (SCR) Selective non-Catalytic Reduction (SNCR) Non-Selective Non-Catalytic Reduction (NSNCR) Low NO_X Burner Proper Kiln Design and Operation

* Dry scrubbing occurs naturally in the kiln and the kiln dust collector as the caustic lime reacts with the acidic sulfur dioxide.

The second step is to eliminate technically infeasible options. For the Lime Kiln, the only option eliminated was the Non-Selective Non-Catalytic Reduction (NSNCR). NSNCR is comprised of an initial burn zone (oxidizing), a secondary burn zone (reducing), and a final burn zone (oxidizing). This technology is only used in one full-scale industrial operation (a cement kiln in Norway). Process differences between cement and lime production are the reason this technology was not applied to the lime industry. A multi-stage preheater and cyclones, which a lime kiln does not have, are necessary for the staged combustion required for this control technology.

Step three is the ranking of the remaining control technologies by effectiveness. The following table lists the strategies available for the Lime Kiln in order of control effectiveness:

Pollutant	Control Technologies Available	Potential Control Efficiency
PM_{10}/TSP	Dust Collector ESP Wet Scrubber Cyclone	99.9% 99.5% 90.0% 90.0%
SO_2	Wet Scrubbing and Dry Scrubbing combined Dust Collector (Dry Scrubbing)*	99.0% 92.0-99.0%
CO	Thermal Oxidation Catalytic Incineration Excess Air Proper Kiln Design and Operation	95.0% 90.0-95.0% 75.0% Base case
NO_x	Oxidation/Reduction Scrubbing Selective Catalytic Reduction (SCR) Selective non-Catalytic Reduction (SNCR) Low NO_X Burner Proper Kiln Design and Operation	90.0% 70.0-90.0% 40.0-70.0% 0-30.0% Base Case

The fourth step in the BACT analysis is a top-down evaluation of the control options on the basis of economic, energy, and environmental considerations. The Kiln 3 applicability section is sub-divided into five sections: Post-combustion NO_X control, combustion NO_X control, SO_2 control, PM control, and CO control.

Post-combustion NO_X control removes NO_X from the Kiln 3 exhaust gases and therefore has the potential for the greatest NO_X reduction. Three post-combustion NO_X controls were considered: oxidation/reduction scrubbing, selective catalytic reduction, and selective non-catalytic reduction.

1. Oxidation/reduction scrubbing uses an oxidizing agent, such as ozone or sodium chlorite, to oxidize NO to NO_2 in a primary scrubbing stage. Then, NO_2 is removed through caustic scrubbing in a secondary scrubbing stage. Saturated flue gas from this second scrubber must be heated before exiting the flue stack to prevent in-stack condensation. This scrubbing system would require two scrubbing towers, a recirculation tank, a pre-mix tank, blowers, a heat exchanger, and a waste handling system. The average removal cost is approximately $7,090 per ton of NO_X removed. Furthermore, this technology is not listed in the RBLC database for lime kilns.

2. Selective catalytic reduction (SCR) is an exhaust gas treatment process in which ammonia is injected into the exhaust gas upstream of a catalyst bed. On the catalyst surface, ammonia and nitric oxide react to form diatomic nitrogen and water. When operated within the optimum temperature range of 575° to 750° F, the reaction can result in removal efficiencies between 70 and 90 percent. Efficient operation of the SCR process requires fairly constant exhaust temperatures. To avoid fouling, an SCR unit must be located downstream of the dust collector. However, due to the low exhaust gas temperature exiting the dust collector, a heat exchanger system would be required. The necessary equipment for SCR includes a catalytic reactor and heat exchanger in addition to storage and handling equipment for the ammonia. Additional concerns with SCR include the hazards involved with storage and use of large quantities of ammonia. The average removal cost is approximately $5,010 per ton of NO_X removed. Furthermore, this technology is not listed in the RBLC database for lime kilns.

3. Selective non-catalytic reduction (SNCR) uses ammonia or urea to reduce NO_X through a chemical reaction similar to SCR. Unlike SCR, SNCR requires a high temperature range (between 1,600 and 1,900° F for ammonia and 1,300° to 1,400° F for a special blend of urea) due to the lack of a catalyst. There is no stable temperature point to inject the ammonia or urea at this plant except for after the dust collector.

This would require an even larger heat exchanger than the SCR system and would include ammonia or urea handling issues as well. The average removal cost is approximately $8,322 per ton of NO_X removed. Furthermore, this technology is not listed in the RBLC database for lime kilns.

Combustion NO_X controls reduces the amount of NO_X that is generated. Two combustion control methods were examined: Low-NO_X burners and proper kiln design.

1. Low-NO_X burners reduce the amount of NO_X initially formed at the flame. The principle is stepwise combustion and local exhaust gas recirculation. Stepwise combustion delays the mixing of fuel and air to achieve an initial fuel-rich flame core, which decreases fuel-generated NO_X and lowers peak flame temperature, which decreases thermal-generated NO_X. Exhaust gas recirculation at the flame lowers the peak flame temperature due to the dilutent effect of oxygen-depleted air, and the lower peak flame temperature decreases the formation of thermal NO_X. Low NO_X burners can only be used in indirect-fired kilns. However, Kiln 3 is a direct-fired kiln. For the proposed Kiln 3, the additional annualized cost for a low NO_X burner system (with the associated conversion to indirect-firing) is $163,000 per year. Currently, only a few lime kilns are indirect fired, and vendors will not guarantee any NO_X reduction above a traditional design.

2. Proper kiln design and operation is used to reduce fuel consumption thus minimizing NO_X emissions. Another parameter than can affect NO_X generation is the amount of excess air. The amount of oxygen in the exhaust gases is a direct indicator of the amount of excess air in the kiln. Excess air contributes to increased NO_X emissions in two ways. First, increasing excess air increases the amount of air that must be heated, thus resulting in decreased fuel efficiency and higher NO_X emissions. Secondly, the excess oxygen in the air increases NO_X formation. Proper kiln operations translate into anticipated oxygen concentrations in the range of 0.5 to 1.5 percent.

   This kiln will also include a dynamic classifier for finer grinding of the coal and coke and a multi-channel burner, which allows improved fuel and air mixing. Both of these features prevent the formation of excessively high temperature zones.

SO_2 controls are in inherently built into lime kilns. The lime dust generated in the kiln acts as a dry scrubbing medium for SO_2 control. The residence time of the SO_2 and lime mixture also controls the amount of SO_2 removed. The residence time is controlled largely by the point in the kiln at which calcination occurs. In Kiln 3, calcination will typically occur early in the system while in the preheater.

This provides more residence time than kilns without a preheater. Additionally, wet scrubbing or dry scrubbing with a dust collector can be added.

1. Wet scrubbing using a caustic agent such as pulverized limestone can achieve SO_2 removal efficiencies of 90 percent as a stand-alone unit. When combined with the natural SO_2 removal of the kiln, an overall removal efficiency of 99 percent could be obtained. A stand-alone unit would cost $4,198 per ton of SO_2 removed. However, adverse environmental impacts of wet scrubbing are incurred in treating and disposing of the large volume of used wet caustic mixture. The $/ton figure does not include the cost of a wastewater treatment plant.

2. Dry scrubbing using a dust collector will be evaluated on Kiln 3 for PM_{10} control, but will also behave as a control device for SO_2. The activity of the removal mechanism is low in the dust collector as compared to the inside the kiln and preheater, but the contact of the gas and lime dust filter cake formed in the dust collector will provide additional SO_2 removal. In a test on a similar lime kiln and dust collector, an average control efficiency of 95.7 percent was obtained.

In evaluating PM controls, dust collectors have the highest control efficiency and lowest opacity of any of the PM control options. Dust collectors remove pollutant from the exhaust gas by drawing the dust-laden air through a bank of filter tubes or bags suspended in a housing. A filter "cake" composed of the removed particulate builds up. Periodically, the cake is removed through physical mechanisms (e.g., a blast of compressed air from the clean side, shaking the bag, etc.) which cause the cake to fall. The dust is then collected in a hopper and eventually removed.

CO controls include thermal oxidation, catalytic incineration, excess air, and proper kiln design and operation.

1. Thermal oxidation reduces CO emissions by supplying adequate heat and sufficient oxygen to ensure that the CO is concerted to CO_2. Thermal oxidation requires temperature of 1,500° F to achieve 95% conversion of CO to CO_2. Because the PM present in the kiln flue gas exit stream plugs and fouls the thermal oxidation equipment, the system must be placed downstream of the baghouse. The flue gas would have to be heated from the baghouse outlet temperature to the operating temperature. This would require a series of heat exchangers as well as a gas-fired furnace. The capital and operating expense for thermal oxidation is $11,233 per ton of CO removed. Additionally, the formation of NO_X from the gas-fired furnace poses an adverse environmental impact. Furthermore, this technology is not listed in the RBLC database for lime kilns.

2. Catalytic incineration is a system designed so that combustion gases pass over a catalyst where the CO in converted into CO_2. The catalyst would be poisoned by the lime dust and the SO_2 generated from coal combustion. The average cost is $9,073 per ton of CO removed.

3. Excess air in the kiln would reduce CO emissions by oxidizing CO to CO_2. However, excess air can affect lime product quality and fuel efficiency. Additionally, adding excess air to either the kiln or the preheater would cause a large increase in the NO_X emissions from the kiln. Furthermore, this technology is not listed in the RBLC database for lime kilns.

4. A properly designed and operated kiln effectively functions as a thermal oxidizer. CO formation is minimized when the kiln temperature and excess oxygen availability is adequate for complete combustion.

Step five is selecting the BACT. For the lime kiln, a dust collector and proper kiln design and operation were chosen.

BACT Analysis for Other Particulate Sources

The first step is identifying possible control technologies. The following table lists the strategies available for Particulate Emitting Sources

Source Type	Possible Control Technologies
Limestone Handling and Processing (SN-31Q and SN-35Q)	Dust Collectors Water Sprays Enclosures
Solid Fuel Handling and Processing (SN-33Q and SN-34Q)	Dust Collectors Water Sprays Enclosures
Lime Handling and Processing (SN-32Q, SN-36Q, SN-37Q, SN-38Q, and SN-39Q)	Dust Collectors Water Sprays Enclosures

The second step is to eliminate technically infeasible options. For the Solid Fuel and Lime Handling processes, water sprays were eliminated. Water sprays on the solid fuel handling points downstream of the fuel storage piles are considered technically infeasible because water will decrease the effectiveness of the coal and coke as fuel. Water sprays are also infeasible on the lime handling points because lime and water reacts exothermically when in contact.

Step three is the ranking of the remaining control technologies by effectiveness. The following table lists the strategies available for the Lime Kiln in order of control effectiveness:

Source Type	Possible Control Technologies	Potential Control Efficiency
Limestone Handling and Processing (SN-31Q and SN-35Q)	Dust Collectors Water Sprays Enclosures	99.0% 90.0% 85.0%
Solid Fuel Handling and Processing (SN-33Q and SN-34Q)	Dust Collectors Enclosures	99.0% 85.0%
Lime Handling and Processing (SN-32Q, SN-36Q, SN-37Q, SN-38Q, and SN-39Q)	Dust Collectors Enclosures	99.0% 85.0%

The fourth step in the BACT analysis is a top-down evaluation of the control options on the basis of economic, energy, and environmental considerations. Arkansas Lime has considered three types of particulate generating sources: limestone handling and processing, solid fuel handling and processing, and lime handling and processing.

1. A limited number of limestone handling and processing points will be constructed with Kiln 3. The slight vacuum at the kiln preheater opening and the water sprays upstream will preclude excess emissions from these drop points.

2. The only new or physically modified coal/coke handling points will be downstream of the coal and coke piles. As mentioned, water sprays are technically infeasible. Dust collectors and enclosures will be used for particulate control.

3. Enclosures will be used to minimize water contact with the lime. For loadouts, dust collectors and dustless loading spouts will be used to minimize emissions and product loss.

Step five is selecting the BACT. For the particulate generating sources, dust collectors, enclosures, and water spray where appropriate were chosen.

BACT Summary

The following table lists the BACT Limits and Determinations for Kiln 3 (SN-30Q)

Pollutant	BACT Limit	BACT Determination
TSP and PM_{10}	0.10 lb/ton of Stone Feed	Baghouse-type Dust Collector
SO_2	4% by Weight Sulfur in Fuel on a Daily Basis and 3% by Weight Sulfur in Fuel on a 30-Day Rolling Average	Natural Dry Scrubbing In Kiln and Baghouse
CO	3.0 lb of CO per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation
NO_X	3.5 lb NO_X per Ton of Lime Produced on a 30-Day Rolling Average	Proper Kiln Design and Operation

The following table summarizes the BACT selection for particulate sources:

BACT Selection for Particulate Sources		
Source Type	BACT Limit	BACT Determination
Limestone Handling and Processing SN-31Q and SN-35Q	Opacity Limits of 20% for SN-31Q and 10% for SN-35Q	Water Sprays (upstream)
Solid Fuel Handling and Processing SN-33Q and SN-34Q	0.015 gr/dscf for SN-33Q for TSP and PM_{10} and Opacity Limits of 5% for SN-33Q and 20% for SN-34Q	Proper Design, Enclosure, and Dust Collector for SN-33Q
Lime Handling and Processing SN-32Q, SN-36Q, SN-37Q, SN-38Q, and SN-39Q	0.010 gr/dscf for SN-32Q 0.015 gr/dscf for SN-36Q, SN-37Q, SN-38Q, and SN-39Q for TSP and PM_{10} and Opacity Limits of 5% for SN-32Q, SN-36Q, SN-37Q, SN-38Q, and SN-39Q	Dust Collectors

Ambient Air Impact Analysis

An air dispersion modeling analysis is a required part of a PSD permit application. The air dispersion modeling analysis is used to demonstrate that the emissions resulting from a proposed modification will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or surpass a PSD increment. The USEPA requires that PSD modeling be performed in two stages: the significance analysis and the full impact analysis. The full impact analysis is further divided into the NAAQS and PSD Increment analyses.

Two levels of air quality dispersion model sophistication exist: screening and refined. Screening models may be used to eliminate more extensive modeling in either the significance phase or the full impact phase. Screening models produce conservative estimates of ambient impacts in order to ensure the maximum ambient concentrations will not be underestimated. If the resulting estimates from a screening model indicate an adverse impact to the NAAQS or PSD Increment, a refined model and/or refined emissions assumptions must be used. For this application, Arkansas Lime used ISCST3 and CTSCREEN models.

Significance Analysis

In the significance analysis, all proposed net emissions increases and decreases associated with the permit application are evaluated to determine whether they will have a significant impact upon the area surrounding the facility. The U.S. EPA requires completion of a full impact analysis in the area defined by the Radius of Significant Impact (ROI) for any pollutant with modeled ambient impacts exceeding an applicable Modeling Significance Level (MSL). In addition, if a maximum ambient impact exceeds a monitoring De Minimis Concentration, PSD ambient monitoring requirements must also be addressed for that pollutant.

The results of the Significance Analysis are summarized in the following table:

PSD Significance Analysis					
Pollutant	Averaging Period	Model Used	Maximum Modeled Concentration ($\mu g/m^3$)	Modeling Significant Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m_3$)
PM_{10}	24-Hour	ISCST3	21.3	5.0	10.0
	Annual	ISCST3	2.27	1.0	N/A
SO_2	3-Hour	ISCST3	24.0	25.0	N/A
		CTSCREEN	33.3	25.0	
	24-Hour	ISCST3	7.68	5.0	13.0

PSD Significance Analysis					
Pollutant	Averaging Period	Model Used	Maximum Modeled Concentration ($\mu g/m^3$)	Modeling Significant Level ($\mu g/m^3$)	Monitoring De Minimis Concentration ($\mu g/m_3$)
		CTSCREEN	7.14	5.0	
	Annual	ISCST3	0.51	1.0	N/A
		CTSCREEN	1.43	1.0	
CO	1-Hour	ISCST3	261.0	2,000.0	N/A
		CTSCREEN	269.0	2,000.0	
	8-Hour	ISCST3	87.4	500.0	575.0
		CTSCREEN	269.0	500.0	
NO_2	Annual	ISCST3	1.45	1.0	14.0
		CTSCREEN	2.91	1.0	

As shown in the table above, a full impact analysis (including NAAQS and PSD Increment analysis) for PM_{10}, SO_2, and NO_2 is required. CO emissions were below the significance levels and require no further analysis.

The output data files of the remaining pollutants were examined to determine the furthest receptor from the plant with a modeled concentration that exceeds the annual-average MSL. This was done to determine the ROI for that pollutant. The results of that study and a summary of which pollutants require Pre-Construction Monitoring is in the following table:

Pollutant	ROI (km)	Pre-Construction Monitoring Required?
PM_{10}	2.04	YES*
SO_2	2.72	YES*
NO_2	6.85	No

* Please see Ambient Monitoring Section on Page 25.

Full Impact Analysis

If the emissions of a particular pollutant associated with the proposed project are shown to have a significant impact, a full impact analysis is required for that pollutant. For this air quality analysis, PM_{10}, SO_2, and NO_X have impacts above an applicable MSL.

A full impact analysis requires that all sources within 50 kilometers of the RIO be considered in the modeling analysis. An inventory of sources surrounding Arkansas Lime was prepared based on ADEQ's air permitting and compliance records.

NAAQS Analysis

The NAAQS are maximum concentrations ceilings measured in terms of the total concentration of a pollutant in the atmosphere. Primary NAAQS define the "levels of air quality which the U.S. EPA judges are necessary, with an adequate margin of safety, to protect the public health." Secondary NAAQS define the levels that "protect the public welfare from any known or anticipated adverse effects of a pollutant."
To perform the NAAQS analysis, post-project PM_{10}, SO_2, and NO_X potential emissions rates for the Arkansas Lime facility are modeled. To estimate total PM_{10}, SO_2, and NO_2 ambient concentrations, the modeled impacts from Arkansas Lime and all other facilities located within 50 kilometers of the RIOs are added to the background concentration. SO_2 and NO_2 background concentrations were measured at monitors located at Arkansas Eastman's Batesville facility. PM_{10} background concentrations are based on measurements taken at ADEQ's PM_{10} monitor located in Searcy.

Background Concentrations		
Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)
PM_{10}	24-Hour	44.8
	Annual	22.4
SO_2	Highest, Second High 3-Hour	144.0
	Highest, Second High 24-Hour	86.4
	Highest Annual	10.5
NO_2	Annual	5.6

The results of the NAAQS Analysis are summarized in the following table:

NAAQS Analysis					
Pollutant	Averaging Period	Model Used	Maximum Modeled Concentration ($\mu g/m^3$)	Maximum Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	Highest 24-Hour	ISCST3	51.30	96.10	150.00
	Highest Annual	ISCST3	8.24	30.60	50.00
SO_2	Highest, Second High 3-Hour	ISCST3	150.00	294.00	1,300.00
		CTSCREEN	385.00	529.00	
	Highest, Second High 24-Hour	ISCST3	26.70	113.00	365.00
		CTSCREEN	82.50	169.00	
	Highest Annual	ISCST3	2.97	13.60	80.00
		CTSCREEN	16.50	27.00	
NO_2	Highest Annual	ISCST3	4.91	10.50	100.00
		CTSCREEN	7.69	13.30	

As shown in the table above, all pollutants pass NAAQS modeling.

PSD Increment Analysis

The PSD regulations were enacted primarily to "prevent deterioration" of air quality in areas of the country where the air quality was better than the NAAQS. To achieve this goal, the U.S. EPA has established PSD Increments for PM_{10}, SO_2, and NO_2. Currently, the PM_{10} PSD Increments have replaced those previously established for PM. The PSD Increments are the maximum allowable increases in ambient concentrations above a baseline concentration for a pollutant. Significant deterioration is said to have occurred if the change in emissions occurring since the applicable baseline date results in an off-property impact greater than the PSD Increment. Based on the results of the significance analysis, the PM_{10}, SO_2, and NO_2 PSD Increments are required to be considered for this air quality analysis.

The results of the PSD Increment Analysis are summarized in the following table:

PSD Increment Analysis					
Pollutant	Averaging Period	Model Used	Maximum Modeled Concentration ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Percent of Increment
PM_{10}	Highest 24-Hour	ISCST3	28.7	30	95.7%
	Highest Annual	ISCST3	5.8	17.0	34.1%
SO_2	Highest, Second High 3-Hour	ISCST3	86.0	512.0	16.8%
		CTSCREEN	165.0		32.3%
	Highest, Second High 24-Hour	ISCST3	21.6	91.0	23.7%
		CTSCREEN	35.4		38.9%
	Highest Annual	ISCST3	2.38	20.0	11.9%
		CTSCREEN	7.08		35.4%
NO_2	Highest Annual	ISCST3	4.46	25.0	17.8%
		CTSCREEN	7.69		30.8%

As shown in the table above, all pollutants are under the available PSD increment.

The air quality analysis indicates that the kiln project may consume more than 50% of the available 24-hour PM_{10} PSD Increment. Therefore, a discussion of the effect on economic and industrial development in the area is required by Regulation 19.9.4(c) of Regulation #19.

The maximum 24-hour average PM_{10} PSD Increment impact occurs on Arkansas Lime's property next to the public road that divides the quarry site into East and West sections. Additionally, Arkansas Lime is located in a rural area several miles from the city of Batesville. The terrain near the plant is generally unsuitable for industrial development. Any new industrial facilities or other development would be closer to Batesville and would not have any appreciable impacts at the locations of Arkansas Lime's maximum PM_{10} Increment impacts. Therefore, Arkansas Lime does not predict any detrimental effect on industrial or economic development in the Batesville area.

Ambient Monitoring

PSD monitoring is used to establish background air quality concentrations in the vicinity of proposed sources. Background levels are important in determining whether the air quality will be approaching or exceeding the NAAQS. The U.S. EPA's Monitoring De Minimis Concentrations establish the ambient impact levels for which a facility would need to address pre-construction ambient air quality monitoring. If a proposed ambient impact exceeds an applicable Monitoring De Minimis Concentration, the applicant must demonstrate that adequate monitoring data are presently available or submit a plan outlining an alternative monitoring strategy.

The PM_{10} and SO_2 significance analysis maximum impacts are greater than the applicable Monitoring De Minimis Concentration. Thus, preconstruction monitoring requirements must be addressed for PM_{10} and SO_2.

Section 2.4 of the Ambient Monitoring Guidelines for PSD allows the use of existing representative air quality data in place of installing expensive monitoring equipment. EPA has defined three cases when existing monitoring data can be used. Case 1 states that:

> "If the proposed source or modification will be constructed in an area that is generally free from the impact of other point sources and area sources associated with human activities, then monitoring data from a "regional" site may be used as representative data. Such a site could be out of the maximum impact area, but must be similar in nature to the impact area. This site would be characteristic of air quality across a broad region including that in which the proposed source or modification is located."

The area around Arkansas Lime is sparsely populated with little developed land. Based on the lack of development in the area and the high quality of data from ADEQ's ambient monitoring network, Case 1 is clearly appropriate, and representative air quality data can be used in lieu of on-site data.

Arkansas Lime will use ambient PM_{10} data from ADEQ's Searcy, Arkansas, monitor to satisfy the PSD preconstruction monitoring requirements for PM_{10}. Arkansas Lime will also use SO_2 data from the Arkansas Eastman monitor to fulfill the preconstruction monitoring for SO_2.

Class I Area Impact Analysis

The nearest Class 1 areas are the Upper Buffalo National Wilderness Area (located approximately 155 kilometers west of Arkansas Lime) and the Hercules-Glades Wilderness area (located approximately 141 km northwest of Arkansas Lime). In a letter dated October 4, 2004, the United States Department of Agriculture (USDA) Forest Service (FS) requested the ADEQ to require Arkansas Lime to supplement the submitted Class I area analysis with a CALPUFF dispersion modeling analysis to address potential impacts from the proposed Kiln 3. There are two principal air quality impacts considered for Class I areas: PSD Increments and Air Quality Related Values (AQRV).

The first tier modeling analysis considers the emissions increases associated with the proposed Kiln 3 project only in order to determine whether the proposed project's emissions will have a significant contribution to Class I Increment consumption. If modeled impacts from the proposed project do not exceed any significant impact levels, an analysis of the cumulative impacts from the proposed facility and regional sources together is not necessary. A summary of the Class I PSD Increment and significance levels for NO_2, SO_2, and PM_{10} is as follows:

Class I PSD Increment Levels For Upper Buffalo Area			
Pollutant	Averaging Period	Maximum Modeled Impact ($\mu g/m^3$)	Class I Significance Level ($\mu g/m^3$)
PM_{10}	24-Hour	0.0190	0.3
	Annual	0.000607	0.2
SO_2	3-Hour	0.643	1.0
	24-Hour	0.158	0.2
	Annual	0.00594	0.1
NO_2	Annual	0.00368	0.1

Class I PSD Increment Levels For Hercules-Glades Area			
Pollutant	Averaging Period	Maximum Modeled Impact ($\mu g/m^3$)	Class I Significance Level ($\mu g/m^3$)
PM_{10}	24-Hour	0.0198	0.3
	Annual	0.000692	0.2
SO_2	3-Hour	0.708	1.0
	24-Hour	0.165	0.2
	Annual	0.00685	0.1
NO_2	Annual	0.00429	0.1

For the Class I AQRV analysis, with the exception of visibility, the Clean Air Act and PSD regulations do not define AQRV, do not provide procedures for defining AQRV, and do not provide criteria to determine critical pollutant loadings at which an adverse impact on AQRV would occur. The Federal Land Managers FLAG Phase I report defines the following:

> Air Quality Related Value – A resource, as identified by the FLM for one or more Federal Areas, that may be adversely impacted by a change in air quality. The resource may include visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource identified by the FLM for a particular Area.
>
> Adverse Impact on Air Quality Related Values – A deleterious effect on any AQRC defined by the FLM, resulting from the emissions of a proposed sources or modification, that interferes with the management, protection, preservation, or enjoyment of the AQRV.

AQRV indicators typically identified by FLM include visibility degradation and nitrogen and sulfur deposition.

Regional haze is measured using the light extinction coefficient b_{ext} To determine a change in regional haze, the percentage change of the light extinction coefficient is evaluated. The FLAG guidance general level of concern for the percentage change is 5%. The results of the CALPUFF modeling are in the following table:

Visibility Impacts Using Regional Haze			
Class I Area	Modeled Year	Max. 24-hour Avg. Light Extinction Change (Δb_{ext}) (%)	Number of Days with b_{ext} >5%
Upper Buffalo	1991	9.9	1 (01/03/91)
	1992	4.8	0
	1993	4.2	0
	1994	4.5	0
	1995	5.1	1 (11/18/95)
Hercules-Glades	1991	10.1	1 (01/03/91)
	1992	4.5	0
	1993	4.0	0
	1994	4.5	0
	1995	4.9	0

Arkansas Lime believes the results of the study on 1/03/91 and 11/18/95 were anomalies and are statistically insignificant. The extinction change for both areas predicted on January 3, 1991, is more than nine standard deviations greater than that analysis's average extinction change for 1991. The extinction change on November 18, 1995, for the Upper Buffalo area is more than six standard deviations above the 1995 average.

Based on the results of the modeling analyses and the naturally occurring visibility impairment present on January 3, 1991, and November 18, 1995, Arkansas Lime contends that at no time do the modeled emissions from the proposed Kiln 3 project cause adverse impacts to the visibility in the Upper Buffalo and Hercules-Glades Class I areas.

In the deposition analysis, the project's contribution to the deposition of chemical species in the Class I areas are evaluated against values set by the FLM. The objective of the deposition analysis is to demonstrate that emissions from the proposed project would not increase total deposition beyond a deposition assessment threshold (DAT) for either sulfate or nitrate. FLM guidance for assessment of deposition impacts suggests that an appropriate DAT for both sulfur and nitrogen is 0.005 kg/ha/yr each. The results of the modeling are in the following table:

Deposition Impacts			
Class I Area	Modeled Year	Average Sulfur Flux (kg/ha/yr)	Average Nitrogen Flux (kg/ha/yr)
Upper Buffalo	1991	0.00312	0.00208
	1992	0.00282	0.00188
	1993	0.00266	0.00158
	1994	0.00331	0.00208
	1995	0.00259	0.00139
Hercules-Glades	1991	0.00330	0.00216
	1992	0.00303	0.00207
	1993	0.00287	0.00166
	1994	0.00349	0.00218
	1995	0.00271	0.00145

As shown in the table, the average flux for both sulfur and nitrogen for each year was below the DAT value of 0.005 kg/ha/yr. Therefore, Arkansas Lime's proposed project will not cause adverse deposition at the Upper Buffalo and Hercules-Glades Class I areas.

Additional Impacts Review

An additional impact analysis is completed based on existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the project's area of impact. The additional impact analysis consists of three parts: (1) growth, (2) soils and vegetation impacts, and (3) visibility impairment.

Growth Analysis

The purpose of the growth analysis is to predict and quantify how much new growth is likely to occur to support the source or modification under review and to estimate the emissions that will result from that associated growth. First, an assessment is made regarding the amount of residential growth the modified source will bring to the area. This depends on the size of the available work force, the number of new employees, and

the availability of housing in the area. Associated commercial and industrial growth consists of new sources providing goods and services to the new employees and to the modified source itself. Once these anticipated growth effects have been considered, an estimate of the air pollutant emissions that would likely result from this associated growth is made.

The proposed project is expected to add less than 10 additional employees. Thus, any industrial, commercial, and residential growth will be small. No appreciable increase in emissions is expected as a result of any growth that might be associated with the proposed project.

Soil and Vegetation Analysis

The analysis of air pollution impacts on soils and vegetation is based on an inventory of the soils and vegetation types found in the impact area. This inventory includes all vegetation of any commercial or recreational significance. For most types of soil and vegetation, ambient concentrations of criteria pollutants below the secondary NAAQS will not result in harmful effects.

Arkansas Lime is located near Batesville in western Independence County. A General Soil Map for Independence County was complied by the United States Department of Agriculture Soil Conservation Service in 1981. Soil types near the plant include: Clarksville-Gepp, Linker-Sidon, Lily-Clarksville, Newnata-Moko, Wideman-Sturki, and Egarn-Arrington. Vegetation in the vicinity of the plant is mainly timber and grass. Along the nearby White River, soybean, corn, and some rice are grown in addition to the hay and timber nearer to the plant.

No sensitive aspects of the soil and vegetation in the area surrounding the plant have been identified. Consequently, the secondary NAAQS are used as an indicator of potentially adverse impacts.

Visibility Analysis

EPA prescribes the use of its Workbook for Plume visual Impact Screening and Analysis for conducting a visibility impairment analysis. Three levels of screening procedures are outlined. If the criteria for the first, most conservative, screening level are met, no further analysis is required.

The VISCREEN model is recommended for the first level screen. If calculated values from the VISCREEN model are greater than the standardized screening values, the emissions are judged to have the potential for visibility impairment. If the potential for visibility impairment is indicated, the next level analysis is required.

The results of the level 1 visibility analysis are below the standardized screening criteria, thus no additional analysis is required. The VISCREEN model indicates that no visibility impairment will result from the modifications.

CERTIFICATE OF SERVICE

I, , hereby certify that a copy of this permit has been mailed by first class mail to Arkansas Lime Company, 600 Limedale Road, Batesville, AR, 72503, on this 22nd day of May, 2009.

Pam

Pam Owen, AAII, Air Division