

STATE OF NEW MEXICO  
ENVIRONMENTAL IMPROVEMENT BOARD



IN THE MATTER OF PROPOSED REPEAL OF:

20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter*

No. EIB 18-07(R)

NEW MEXICO ENVIRONMENT DEPARTMENT  
FIRST AMENDED NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY

Pursuant to 20.1.1.302.A NMAC, the New Mexico Environment Department (“Department”) hereby submits its First Amended Notice of Intent to present technical testimony in this proceeding.

1. **The person for whom the witnesses will testify.**

The New Mexico Environment Department, Environmental Protection Division, Air Quality Bureau.

2. **The name and qualifications of each technical witness.**

Neal Butt. Mr. Butt is an Environmental Analyst in the Control Strategies Unit of the Air Quality Bureau. He has worked in the Air Quality Bureau since March of 2014. Prior to this he worked for the City of Albuquerque Environmental Health Department for 17 years, the last 13 of which were as an Environmental Health Scientist in the Air Quality Division. Mr. Butt holds an M.S. Degree in Biology from the University of North Dakota, a B.S. Degree in Biology and a B.A. Degree in Environmental Planning and Design from the University of New Mexico, an A.A.S. in Environmental Protection Technology and an A.A.S. in Criminal Justice from CNM. His resume is attached as NMED Exhibit 3a

Kerwin Singleton. Kerwin Singleton is the Chief of the Planning Section of the Air Quality Bureau and will be available to answer questions; he will not provide technical

testimony. He has 34 years of experience in the environmental field, including 14 years with the Department. In addition to his work for the Air Quality Bureau, Mr. Singleton has worked in industry and government as an environmental engineer. Mr. Singleton holds a B.S. degree in Chemical Engineering from the University of Missouri - Columbia. His resume is attached as NMED Exhibit 3b.

**3. A Copy of the Direct Testimony of Each Witness in Narrative Form**

A copy of the written direct testimony of Mr. Butt is attached as NMED Exhibit 2. Mr. Butt will present testimony regarding the proposed repeal of 20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter*. The Department does not intend to present direct testimony from Mr. Singleton, but he intends to be present as a possible rebuttal witness; he will be available to assist in answering questions that may go beyond the expertise of Mr. Butt.

**4. Text of Recommended Modifications to the Proposed Regulatory Change**

The Department recommends that the Board adopt the proposed repeal of 20.2.20 NMAC, which is part of the New Mexico State Implementation Plan, as shown in the *Petition for Regulatory Change*, filed July 5, 2018. The Public Review Draft is attached (without further revision) as NMED Exhibit 1.

**5. List and Description of Exhibits**

The Department submits the following exhibits:

<b><u>Exhibit Number</u></b>	<b><u>Title of Exhibit</u></b>
NMED 1	Public Review Draft, Proposed Repeal of 20.2.20 NMAC, <i>Lime Manufacturing Plants – Particulate Matter</i> , filed 7/5/18, in redline-strikeout format.
NMED 2	Direct Testimony of Neal Butt
NMED 3	Resumes: 3a. Neal Butt; 3b. Kerwin Singleton

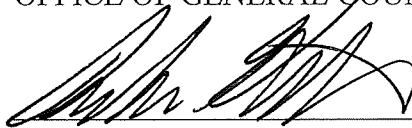
- NMED 4 Stakeholder Outreach: 4a. List Serve notice to stakeholders 5/11/15; 4b. Stakeholder Comment and AQB Response 5/26/15
- NMED 5 Notice of Opportunity for a Public Information Hearing: 5a. Albuquerque Journal (print), 7/22/18; 5b. Albuquerque Journal (e-Journal), 7/24/18; 5c. List Serve, 7/20/18; 5d. Indian tribes, pueblos and nations, 7/20/18; 5e. Land Grants, 7/20/18; 5f. NMED Field Offices, 7/20/18; 5g. Los Alamos Daily Post, 7/22/18; 5h. Belen and Valencia Co. Administrations (USPS), 7-19-18
- NMED 6 Notice of Proposed Rulemaking: 6a. Albuquerque Journal (English and Spanish), 8/26/18; 6b. NM Register (English and Spanish), 8/28/18; 6c. Valencia County News Bulletin 8/23/18; 6d. List Serve, 8/23/18; 6e. NM Legislative Council Service, 8/23/18; 6f. NM Sunshine Portal (English and Spanish), 8/24/18; 6g. Indian tribes, pueblos and nations, 7/23/18; 6h. Land Grants within 4-mile radius of Lhoist, 8/23/18; 6i. NMED Field Offices 8/23/18; 6j. Previous commenter, 8/23/18; 6k. Belen and Valencia Co. Administrations (USPS), 8-23-18
- NMED 7 Modeling demonstration: 7a. Modeling Analysis of Lhoist lime hydrator facility (9/29/17); 7b EPA Comments (8/8/17) and AQB Response (1/16/18)
- NMED 8 110(I) Demonstration: 8a. CAA Section 110(I) Noninterference Demonstration (5/17/18); 8b EPA comment (3/12/18) and AQB Response (3/22/18); 8c. EPA comment (5/10/18) and AQB Response (5/31/18); 8d. Regulatory compliance discussion, Trinity Consultants Attachment B (2000)
- NMED 9 NSPS Subpart HH, *Standards of Performance for Lime Manufacturing Plants* (affecting any lime manufacturing plants commenced on or after 5/3/77): 9a. Original rule, 43 FR 9452-4, 3/7/78; 9b. Revised rule, 49 FR 18076-80, 4/26/84
- NMED 10 NESHAP Subpart AAAAA, *National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants*, 69 FR 394-433, 1/5/04
- NMED 11 National Lime Association v. EPA, 627 F.2d 416 (D.C. Circuit 1980)

7. **Reservation of Rights**

This *Notice of Intent* to present technical testimony is based on the Department's petition. The Department reserves the right to call any person to testify and to present any exhibit in response to another *Notice of Intent* or public comment filed in this matter or to any testimony or exhibit offered at the public hearing. The Department also reserves the right to call any person as a rebuttal witness and to present any exhibit in support thereof.

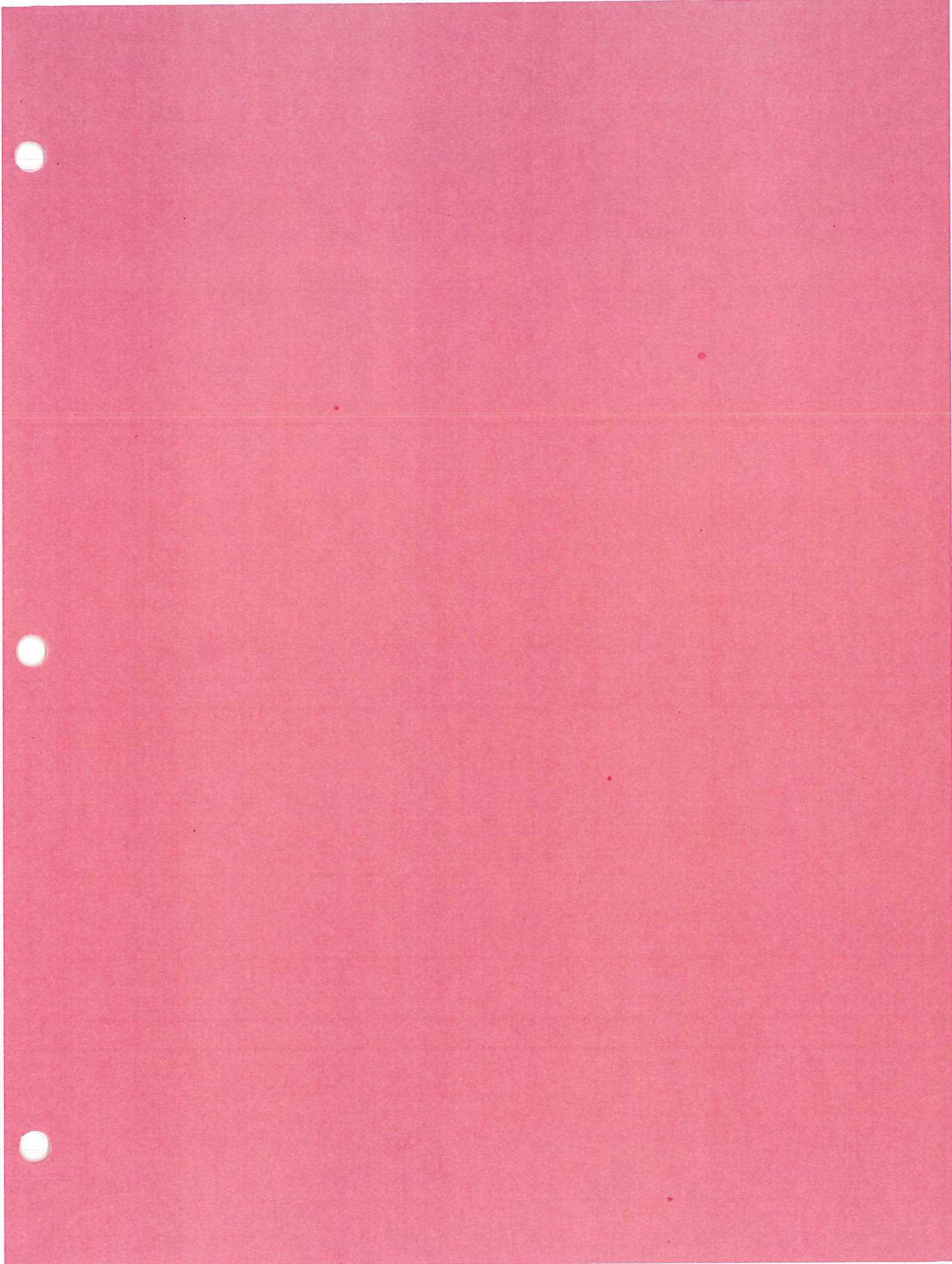
Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT  
OFFICE OF GENERAL COUNSEL

A handwritten signature in black ink, appearing to read 'Andrew Knight', is written over a horizontal line.

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**TITLE 20 ENVIRONMENTAL PROTECTION**  
**CHAPTER 2 AIR QUALITY (STATEWIDE)**  
**PART 20 LIME MANUFACTURING PLANTS - PARTICULATE MATTER**

~~20.2.20.1 ISSUING AGENCY: Environmental Improvement Board.~~  
~~[11/30/95; 20.2.20.1 NMAC Rn, 20 NMAC 2.20.100 10/31/02]~~

~~20.2.20.2 SCOPE: All geographic areas within the jurisdiction of the Environmental Improvement Board.~~  
~~[11/30/95; 20.2.20.2 NMAC Rn, 20 NMAC 2.20.101 10/31/02]~~

~~20.2.20.3 STATUTORY AUTHORITY: Environmental Improvement Act, NMSA 1978, section 74-1-8(A)(4) and (7), and Air Quality Control Act, NMSA 1978, sections 74-2-1 et seq., including specifically, section 74-2-5(A), (B) and (C).~~  
~~[11/30/95; 20.2.20.3 NMAC Rn, 20 NMAC 2.20.102 10/31/02]~~

~~20.2.20.4 DURATION: Permanent.~~  
~~[11/30/95; 20.2.20.4 NMAC Rn, 20 NMAC 2.20.103 10/31/02]~~

~~20.2.20.5 EFFECTIVE DATE: November 30, 1995.~~  
~~[11/30/95; 20.2.20.5 NMAC Rn, 20 NMAC 2.20.104 10/31/02]~~  
~~[The latest effective date of any section in this Part is 10/31/02.]~~

~~20.2.20.6 OBJECTIVE: The objective of this Part is to establish particulate matter emission standards for lime manufacturing plants.~~  
~~[11/30/95; 20.2.20.6 NMAC Rn, 20 NMAC 2.20.105 10/31/02]~~

~~20.2.20.7 DEFINITIONS: In addition to the terms defined in 20.2.2 NMAC (Definitions), as used in this Part:~~

~~A. "Commenced" means that an owner or operator has undertaken a continuous program of construction or that an owner or operator has entered into a binding contractual obligation to undertake and complete within a reasonable time a continuous program of construction.~~

~~B. "Existing lime manufacturing plant" means any plant that produces lime by calcination that was constructed and operational, or at which construction was commenced, prior to May 3, 1977, and includes all crushers, conveyors, screens and other size classification units, hoppers, chutes and kilns.~~

~~C. "Lime" means the product of the calcination process and includes, but is not limited to, calcitic lime, dolomitic lime, and dead burned dolomite.~~

~~D. "Lime hydrator" means a unit used to produce hydrated lime.~~

~~E. "Modification" means a physical change or change in the manner of operation which increases the amount of any air contaminant emitted by the lime manufacturing plant or which results in the emission of any air contaminant not previously emitted.~~

~~F. "New lime manufacturing plant" means any plant that produces lime by calcination at which construction or modification was commenced on or after May 3, 1977, and includes all crushers, conveyors, screens and other size classification units, hoppers, chutes and kilns. New lime manufacturing plant also includes any plant which produces hydrated lime, the construction or modification of which was commenced on or after May 3, 1977.~~

~~G. "Opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.~~

~~H. "Part" means an air quality control regulation under Title 20, Chapter 2 of the New Mexico Administrative Code, unless otherwise noted; as adopted or amended by the Board.~~

~~I. "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce lime from limestone by calcination.~~  
~~[11/30/95; 20.2.20.7 NMAC Rn, 20 NMAC 2.20.107 10/31/02]~~

~~20.2.20.8 AMENDMENT AND SUPERSESION OF PRIOR REGULATIONS: This Part amends and supersedes Air Quality Control Regulation ("AQCR") 509—Lime Manufacturing Plants—Particulate Matter last filed November 21, 1978.~~

~~A. All references to AQCR 509 in any other rule shall be construed as a reference to this Part.~~



1 ~~\_\_\_\_\_ B. \_\_\_\_\_~~ The amendment and supersession of AQCR 509 shall not affect any administrative or judicial  
2 enforcement action pending on the effective date of such amendment nor the validity of any permit issued pursuant  
3 to AQCR 509.

4 ~~[11/30/95; 20.2.20.8 NMAC Rn, 20 NMAC 2.20.106 10/31/02]~~

6 ~~20.2.20.9 \_\_\_\_\_ DOCUMENTS:~~ Documents cited in this Part may be viewed at the New Mexico Environment  
7 Department, Air Quality Bureau, Runnels Building, 1190 Saint Francis Drive, Santa Fe, NM 87505 [2048 Galisteo  
8 St., Santa Fe, NM 87505].

9 ~~[11/30/95; 20.2.20.9 NMAC Rn, 20 NMAC 2.20.108 10/31/02]~~

11 ~~20.2.20.10 to 20.2.20.108 [RESERVED]~~

13 ~~20.2.20.109 \_\_\_\_\_ EMISSIONS LIMITATIONS NEW PLANT:~~ The owner or operator of a new lime  
14 manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to:

15 ~~\_\_\_\_\_ A. \_\_\_\_\_~~ Exceed 0.30 pounds per ton of limestone feed, or exhibit ten percent opacity or greater, from any  
16 lime kiln; or

17 ~~\_\_\_\_\_ B. \_\_\_\_\_~~ Exceed 0.15 pounds per ton of lime feed to any lime hydrator.

18 ~~[11/30/95; 20.2.20.109 NMAC Rn, 20 NMAC 2.20.109 10/31/02]~~

20 ~~20.2.20.110 \_\_\_\_\_ EMISSIONS LIMITATIONS EXISTING PLANT:~~ The owner or operator of an existing lime  
21 manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to  
22 exceed 10 pounds per hour from any rotary lime kiln.

23 ~~[11/30/95; 20.2.20.110 NMAC Rn, 20 NMAC 2.20.110 10/31/02]~~

25 ~~20.2.20.111 \_\_\_\_\_ EMISSION CONTROLS:~~ Any person owning or operating a lime manufacturing plant shall  
26 equip and maintain all crushers, screens or other size classification units, hoppers and chutes with:

27 ~~\_\_\_\_\_ A. \_\_\_\_\_~~ Systems of enclosures, dust suppressant sprays and other measures as necessary to prevent the  
28 release of particulate matter emissions to the atmosphere; or

29 ~~\_\_\_\_\_ B. \_\_\_\_\_~~ Equip such process units with hoods, fans, and fabric filters, wet scrubbers or other collection and  
30 control systems approved by the Department as at least as effective to reduce particulate matter emissions to the  
31 atmosphere.

32 ~~[11/30/95; 20.2.20.111 NMAC Rn, 20 NMAC 2.20.111 10/31/02]~~

34 ~~20.2.20.112 \_\_\_\_\_ STACK REQUIREMENTS:~~ The owner or operator of lime manufacturing plants shall not  
35 permit, cause, suffer or allow emissions of particulate matter to the atmosphere from a lime kiln or lime hydrator  
36 except through stacks equipped with sampling ports and platforms in such number, location and size to allow  
37 accurate sampling to be performed.

38 ~~[11/30/95; 20.2.20.112 NMAC Rn, 20 NMAC 2.20.112 10/31/02]~~

40 ~~20.2.20.113 \_\_\_\_\_ STACK TESTING:~~ Compliance with 20.2.20.109 NMAC and 20.2.20.110 NMAC shall be  
41 determined consistent with the method for manual stack testing set forth by the US EPA at 40 CFR, Part 60,  
42 Appendix A, Methods 1 through 5, or any other method receiving prior approval from the Department. Upon  
43 request of the Department, the owner or operator of lime manufacturing plants shall perform stack testing according  
44 to the method stated above and report the results of such tests in the format and time period specified by the  
45 Department. The owner or operator shall inform the Department of the dates and times of such testing so that the  
46 Department may have opportunity to have an observer present during testing.

47 ~~[11/30/95; 20.2.20.113 NMAC Rn, 20 NMAC 2.20.113 10/31/02]~~

49 ~~20.2.20.114 \_\_\_\_\_ CONTINUOUS EMISSION MONITORS NEW PLANTS:~~ The owner or operator of a new  
50 lime manufacturing plant shall not permit, cause, suffer or allow operation of the new lime manufacturing plant  
51 unless the plant is equipped with continuous monitoring systems as specified in 40 CFR, Part 60, Subpart HH,  
52 Section 60.343.

53 ~~[11/30/95; 20.2.20.114 NMAC Rn, 20 NMAC 2.20.114 10/31/02]~~

55 **HISTORY OF 20.2.20 NMAC:**

1 **Pre-NMAC History:** The material in this part was derived from that previously filed with the Commission of  
2 Public Records-State Records Center and Archives.  
3 ACQR 509, Air Quality Control Regulation 509 - Lime Manufacturing Plants - Particulate Matter, 11/21/78.  
4

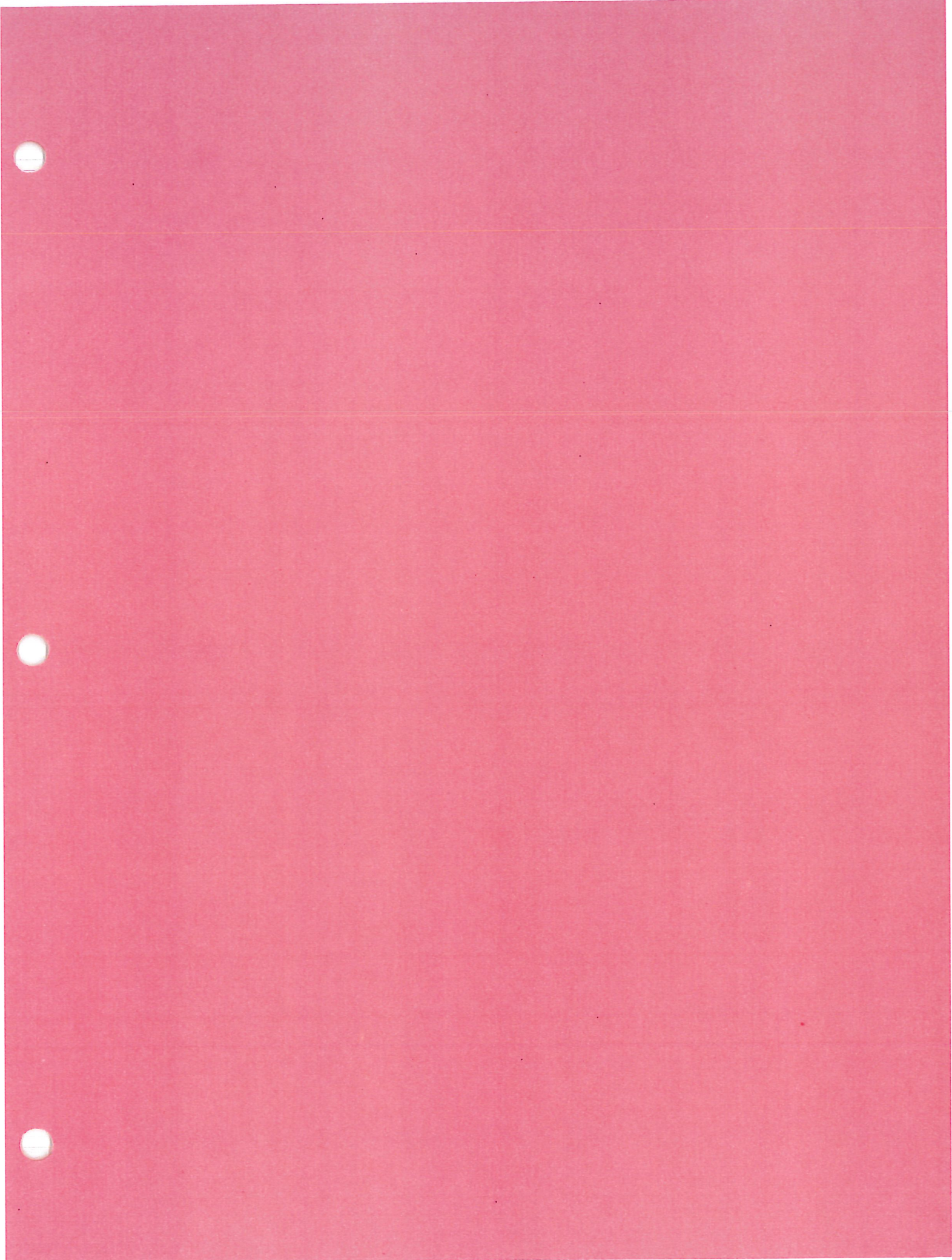
5 **History of Repealed Material:** [RESERVED]

6 20.2.20 NMAC, Lime Manufacturing Plants – Particulate Matter, filed xx/xx/xx – Repealed effective xx/xx/xx.  
7

8 **Other History:**

9 ACQR 509, Air Quality Control Regulation 509 - Lime Manufacturing Plants - Particulate Matter, 11/21/78, was  
10 **renumbered** into first version of the New Mexico Administrative Code as 20 NMAC 2.20, Lime Manufacturing  
11 Plants - Particulate Matter, filed 10/30/95.

12 20 NMAC 2.20, Lime Manufacturing Plants - Particulate Matter, filed 10/30/95, was **renumbered, reformatted**  
13 **and replaced** by 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter, effective 10/31/02.]





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**STATE OF NEW MEXICO  
BEFORE THE ENVIRONMENTAL IMPROVEMENT BOARD**

**IN THE MATTER OF PROPOSED REPEAL OF:**  
**20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter***

**EIB 18-07(R)**

**WRITTEN TESTIMONY OF NEAL BUTT**

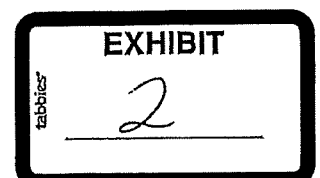
**Witness Qualifications:**

Neal Butt. Mr. Butt is an Environmental Analyst in the Control Strategies Unit of the New Mexico Environment Department's ("Department") Air Quality Bureau (AQB). He has worked in the AQB since March of 2014. Prior to this he worked for the City of Albuquerque Environmental Health Department for 17 years, the last 13 of which were as an Environmental Health Scientist in the Air Quality Division. Mr. Butt holds an M.S. Degree in Biology from the University of North Dakota, a B.S. Degree in Biology and a B.A. Degree in Environmental Planning and Design from the University of New Mexico, and an A.A.S. in Environmental Protection Technology and an A.A.S. in Criminal Justice from CNM.

**I. Introduction**

20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter* ("Part 20") was one of several State rules identified in the *Improving Environmental Permitting* report (NMED, 11/14/12), that should be evaluated for potential repeal. Subsequent analysis of the rule found that most of the emissions standards for lime manufacturing plants cited in this rule were incorporated from the federal New Source Performance Standard (NSPS) for lime manufacturing promulgated in 1978, which has changed significantly since the State rule was first adopted. In addition to relaxing the limits for PM emissions and opacity for rotary lime kilns, the revisions made to the NSPS in 1984 eliminated the performance standards regulating lime hydrators that are cited in the State rule.

The Department is proposing to repeal Part 20, in which is part of the New Mexico State Implementation Plan (SIP). This repeal would eliminate a rule that is outdated and inconsistent with federal performance standards regulating lime manufacturing. Lime manufacturing would continue to be regulated by the respective New Source Performance Standard (NSPS) and National Emission Standard for Hazardous Air Pollutants (NESHAP), as well as through continued federally enforceable permit conditions. Therefore, a repeal of Part 20 is not expected to relax emissions controls or negatively affect air quality.



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## II. Regulatory Background

### History of Part 20

Part 20 was first adopted by the Environmental Improvement Board (EIB) as Air Quality Control Regulation (AQCR) 509, *Lime Manufacturing Plants – Particulate Matter*, on November 15, 1978. Part 20 has been reformatted twice since then, but there have not been any substantive changes made. NMED Exhibit 1 shows the proposed repeal in redline-strikeout format.

This rule was adopted to address two issues:

1. Establish control measures to address potential exceedances of the total suspended particulate (TSP) standard in the region of Hurley, NM; and
2. Incorporate the contemporaneously promulgated NSPS Subpart HH, *Standards of Performance for Lime Manufacturing Plants* (affecting any lime manufacturing plant “that commences construction or modification after 5/3/77”) [FR Vol. 43, No. 45, 9452-4, 3/7/78], shown as NMED Exhibit 9a. AQCR 509 expanded this range of applicability to include 5/3/77. (i.e. “on or after”).

These NSPS limits were incorporated into AQCR 509 along with an additional, ad hoc, particulate matter emission limit of 10 lbs. per hour for existing Rotary Lime Kilns (i.e. “those constructed and operational, or at which construction was commenced, prior to 5/3/77” and not subject to NSPS HH). This limit was adopted specifically to control particulate matter emissions generated by the two Rotary Lime Kilns that were operating during that time, the Kennecott Copper Corp. near Hurley, and the Mathis & Mathis lime plant 10 miles east of Silver City. Both sources have since closed. This limit was developed using the report produced by Engineering-Science Incorporated that was presented during the hearing to adopt AQCR 509 and was consistent with the demonstrated control technology at that time (i.e., 95% control on existing lime kilns). (pp. 558-559 Transcript of Proceedings, 11/15/78, Volume 5, Hearing # 78-08-25). There is only one lime hydrator in operation in New Mexico, the Lhoist NA plant in Belen, NM, which is subject to Part 20.

### Regulation of lime manufacturing plants and lime hydrators

Part 20 established particulate matter emissions limits for lime manufacturing plants (i.e., those that produce lime by calcination in a kiln) and lime hydrators (i.e., those that convert quicklime, or Calcium Oxide, to hydrated lime, or Calcium Hydroxide).

In addition to NSPS Subpart HH, which was revised on April 26, 1984 [49 FR 18080], shown as NMED Exhibit 9b, lime manufacturing is also regulated by 40 CFR Part 63, Subpart AAAAA,

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*National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants* ("NESHAP Subpart AAAAA"), promulgated on January 5, 2004 [69 FR 416], shown as NMED Exhibit 10. Part 20 was adopted before NESHAP Subpart AAAAA was promulgated and has not been revised to incorporate NESHAP Subpart AAAAA.

Currently, there are no facilities in New Mexico subject to either NSPS Subpart HH or NESHAP Subpart AAAAA.

#### Remand of NSPS Subpart HH to EPA

On May 19, 1980, the Court of Appeals remanded NSPS Subpart HH back to EPA [*National Lime Association v. EPA*, 627 F.2d 416 (D.C. Circuit 1980)], shown as NMED Exhibit 11. To address the remand, the EPA relaxed the standards from: 0.30 lb. to 0.60 lb. of particulate matter (PM) emissions per ton limestone feed for Rotary Lime Kilns; from 10% to 15% opacity for Rotary Lime Kilns; and eliminated the PM emissions limit for lime hydrators altogether. Because no revisions were adopted for Part 20 to reflect these changes, it is inconsistent with NSPS Subpart HH.

#### How does Part 20 differ from federal regulations?

As a consequence of this remand and subsequent amendment to the NSPS, Part 20 differs from NSPS Subpart HH in three ways, illustrated by Table 1, of the 110(l) Demonstration, shown as NMED Exhibit 8a, which compares emissions limits stipulated by Part 20 with those stipulated by NSPS HH and NESHAP AAAAA.

The first difference is that the particulate matter emission limit (0.30 lb./ton limestone feed) for a kiln at a "new" lime manufacturing plant (construction commenced on or after 5/3/1977), subject to Part 20, is half of the limit (any gases which contain PM in excess of 0.60 lb./ton of stone feed (tsf)) for a kiln subject to NSPS Subpart HH (Commences construction of rotary lime kiln after 5/3/1977). 'Stone feed' means limestone feedstock and mill scale or other iron oxide additives that become part of the product.

Secondly, the opacity limit for a lime kiln (10%) at a "new" lime manufacturing plant subject to Part 20 is lower than the opacity limit (15% exiting from a dry emission control device) required by NSPS Subpart HH.

Finally, the PM emissions limit for lime hydrators subject to Part 20 (0.15 lb/ton lime feed) is no longer required by NSPS Subpart HH.



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NESHAP AAAAA has a very different emissions threshold for applicability than Part 20. Specifically, the only lime manufacturing plants subject to NESHAP AAAAA are those that are major sources or located at, or are part of, a major source of hazardous air pollutant (HAP) emissions (10 TPY of any one HAP or 25 TPY of any combination of HAPs) unless the lime manufacturing plant is located at a Kraft, soda or sulfite pulp mill, beet sugar plant, or only processes sludge containing calcium carbonate from water softening processes. NESHAP AAAAA also has different particulate matter emissions limits and opacity limits.

### **III. Factors Affecting the Proposed Repeal of Part 20**

As described above, Part 20 is outdated and inconsistent with federal rules regulating lime manufacturing plants and lime hydrators. In addition, the Department has developed a demonstration which shows that air quality will not be negatively affected (will not cause backsliding) by this repeal.

Part 20 will not cause backsliding

The Clean Air Act (CAA) contains “anti-backsliding” provisions which prevent the reduction or removal of pollution controls which could allow an area to slip back into noncompliance with the CAA. The specific Section of concern is 110(l), *Plan Revisions*, which stipulates that the EPA Administrator “shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and Reasonable Further Progress (RFP) . . . or any other applicable requirement of this chapter” (42 U.S.C. Chapter 85, *Air Pollution Prevention and Control*, §7410, *State Implementation Plans for National Primary and Secondary Ambient Air Quality Standards*)

Therefore, the State must demonstrate that the proposed SIP revision will not interfere (“noninterference”) with attainment of the National Ambient Air Quality Standards (NAAQS), Rate of Progress (ROP), RFP or any other applicable requirement of the CAA. This is called a “110(l) Demonstration”. “For SIP revisions that will or could potentially lead to a change in emissions or ambient concentrations of a pollutant or its precursors, the Section 110(l) demonstration should address all pollutants whose emissions and/or ambient concentrations may change as a result of the SIP revision.” (*Demonstrating Noninterference Under Section 110(l) of the Clean Air Act When Revising a State Implementation Plan*, DRAFT, USEPA, June 8, 2005).

Requirements of a 110(l) Demonstration

Because Part 20 is part of the New Mexico State Implementation Plan, or “SIP”, the AQB is required to make this demonstration of noninterference under Section 110(l) to the EPA that the proposed repeal will not negatively affect the attainment or maintenance of any NAAQS, ROP,

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RFP, etc. This 110(l) demonstration has been submitted to EPA for approval. A 110(l) demonstration entails either:

- “1) Substitution of one measure by another with equivalent or greater emissions reductions or air quality benefit; or
- 2) an air quality analysis showing that removing the measure will not interfere with other applicable requirements.” (*Demonstrating Noninterference Under Section 110(l) of the Clean Air Act When Revising a State Implementation Plan*, DRAFT, USEPA, June 8, 2005).

NMED 110(l) demonstration for repeal of Part 20

The key aspects of the 110(l) demonstration to EPA for the repeal of Part 20 include that:

1. It is not necessary for Part 20 to be part of the SIP in order to maintain the NAAQS.
2. Repealing Part 20 would eliminate the State standards for lime manufacturing plants; however, there are no existing lime manufacturing plants in New Mexico. Therefore, there are not any lime manufacturing plants subject to Part 20 which could potentially be affected by this repeal. If a new lime manufacturing plant were to locate in New Mexico, it would still be subject to NSPS Subpart HH and NESHAP Subpart AAAAAA, which are incorporated by reference at 20.2.77 NMAC, *New Source Performance Standards* and 20.2.82 NMAC, *Maximum Achievable Control Technology Standards for Source Categories of Hazardous Air Pollutants*, respectively.
3. NMED modeling demonstrates that the sole source will not interfere with the NAAQS at its full potential to emit (PTE). The only source currently subject to Part 20 is Lhoist North America (formally known as Chemical Lime Co.), located in Belen, NM, which is permitted to operate a lime hydrator, but does not operate a kiln.

The previous modeling demonstration conducted for this facility did not address building downwash (stating that “Building downwash is not included as it is optional for the radius of impact analysis”) and did not model for PM<sub>2.5</sub> (not an applicable requirement at that time); however, the EPA is requiring both of these as part of the 110(l) demonstration. Therefore, the AQB conducted a site visit of this facility to gather spatial data to use as inputs into an updated dispersion modeling analysis, shown as NMED Exhibit #7a, which verified that this facility, at its potential to emit (PTE), will not cause nor significantly contribute to any exceedances of any applicable air quality standards, as constructed and operated. This new modeling also utilized the more current EPA-accepted program “AERMOD” instead of “ISCST3.”

4. Repealing Part 20 would eliminate the particulate matter emissions limit for lime hydrators (not to exceed 0.15 pounds per ton of lime feed), but the existing lime hydrator

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(Lhoist) would still be required to comply with their permitted emissions limits, and any new facility would also be required to apply for a permit, pursuant to 20.2.72 NMAC, *Construction Permits* ("Part 72"). Lhoist operates under an NSR permit (1652-M2-R6), and their Potential to Emit for particulate matter is based on a permit limit, which is federally enforceable via SIP-approved Part 72.

If Part 20 were repealed, a permit would still be required for the existing Lhoist lime hydrating facility (or any new facility) because uncontrolled particulate matter emissions from the seasoning chamber (i.e. the lime hydrator), are estimated to be greater than the 10 pounds per hour or 25 tons per year permitting thresholds stipulated by Part 72.

In addition, a permit would still be necessary to specifically limit their emissions of Toxic Air Pollutants (e.g. quick lime and hydrated lime) as required per 20.2.72.200.A.(4), 400, 402 and 502 NMAC.

Specifically, Permit Condition #1(f) states that: "Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification. . . of this permit." Should Lhoist apply for a permit revision in response to the repeal of Part 20 (e.g. to remove, Permit Condition #1(e) which cites to Part 20), Part 72 would still require the applicant to show compliance with the NAAQS through modeling. Therefore, repeal of Part 20 would not allow emissions from the facility to interfere with attainment or maintenance of the NAAQS.

#### **IV. Section-by-Section Analysis for the Proposed Repeal of Part 20**

Table 2, of the 110(l) Demonstration, shown as NMED Exhibit #8a, shows a before and after comparison of Part 20, proposed to be repealed, with air quality protections that would be unaffected by the proposed repeal.

**20.2.20.109 NMAC, EMISSIONS LIMITATIONS - NEW PLANT:** "The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to:

- A. Exceed 0.30 pounds per ton of limestone feed, or exhibit ten percent opacity or greater, from any lime kiln; or
- B. Exceed 0.15 pounds per ton of lime feed to any lime hydrator."

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Subsection A corresponds to NSPS Subpart HH, §60.342 *Standard for particulate matter*, which states that gaseous emissions from any rotary lime kiln may not contain PM in excess of 0.60 lb. /ton of stone feed, or exhibit greater than 15 percent opacity when exiting from a dry emission control device.

NMED did not revise Part 20 to incorporate these new standards after the remand of the NSPS by the Court of Appeals, which resulted in Part 20 being more restrictive. However, if Part 20 were repealed, the revised NSPS would still be protective of air quality. If any new lime manufacturing plant were to locate in New Mexico, they would be subject to NSPS Subpart HH and/or NESHAP Subpart AAAAA (if a major source of hazardous air pollutants).

Subsection B was incorporated from the previous version of NSPS Subpart HH, which has since been remanded, and no longer contains standards for lime hydrators. However, the existing lime hydrating facility, Lhoist North America, in Belen, NM, operates under an NSR Permit, which would remain in place after the repeal of Part 20. Therefore, they would still be required to comply with their permitted emissions limits and, should they seek to increase emissions, would still need to demonstrate noninterference with the NAAQS. Therefore, the repeal of Part 20 would not reduce protections afforded by their permit and would not enable emissions from the facility to interfere with attainment or maintenance of the NAAQS.

**20.2.20.110 NMAC, EMISSIONS LIMITATIONS - EXISTING PLANT** “The owner or operator of an *existing* lime manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to exceed 10 pounds per hour from any rotary lime kiln.”

There are no “Existing lime manufacturing plants” located in New Mexico. “Existing” is defined as “constructed and operational, or at which construction was commenced, *prior* to 5/3/1977.” Therefore, repeal of Part 20 would have no effect on existing lime manufacturing plants in New Mexico.

**20.2.20.111 NMAC, EMISSION CONTROLS** “Any person owning or operating a lime manufacturing plant shall equip and maintain all crushers, screens or other size-classification units, hoppers and chutes with:

- A. Systems of enclosures, dust suppressant sprays and other measures as necessary to prevent the release of particulate matter emissions to the atmosphere; **or**
- B. Equip such process units with hoods, fans, and fabric filters, wet scrubbers or other collection and control systems approved by the Department as at least as effective to reduce particulate matter emissions to the atmosphere.”

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These control technologies can be incorporated as conditions of a federally-enforceable permit pursuant to 20.2.72.210.B.(2) NMAC:

“A requirement that such source install and operate control technology, determined on a case-by-case basis, sufficient to meet the requirements of the Air Quality Control Act and the federal act and regulations promulgated under either.” Part 72 requirements and Permit Condition #1(f) as described above are adequate to cover this section if Part 20 is repealed.

**20.2.20.112 NMAC, STACK REQUIREMENTS** “The owner or operator of lime manufacturing plants shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere from a lime kiln or lime hydrator except through stacks equipped with sampling ports and platforms in such number, location and size to allow accurate sampling to be performed.”

These sampling methods can be incorporated as conditions of a federally-enforceable permit pursuant to 20.2.72.210.C.(1) - (5) NMAC:

- “(1) Sampling ports of a size, number and location as the department may require;
- (2) Safe access to each port;
- (3) Instrumentation to monitor and record emission data including continuous emission monitoring, if appropriate;
- (4) Any other reasonable sampling, testing and ambient monitoring and meteorological facilities and protocols; and
- (5) Periodic testing pursuant to 20.2.72.213 NMAC.”

Part 72 requirements are adequate to cover this section if Part 20 is repealed.

**20.2.20.113 NMAC, STACK TESTING** “Compliance with 20.2.20.109 NMAC and 20.2.20.110 NMAC shall be determined consistent with the method for manual stack testing set forth by the US EPA at 40 CFR, Part 60, Appendix A, Methods 1 through 5, or any other method receiving prior approval from the Department. Upon request of the Department, the owner or operator of lime manufacturing plants shall perform stack testing according to the method stated above and report the results of such tests in the format and time period specified by the Department. The owner or operator shall inform the Department of the dates and times of such testing so that the Department may have opportunity to have an observer present during testing.”

After repeal, the existing facility (Lhoist) will still be subject to these methods for manual stack testing set forth by the US EPA at 40 CFR Part 60, Appendix A, Methods 1 through 5. Specifically, in order for Lhoist to obtain their original federally-enforceable permit, they had to show compliance with the particulate matter and opacity limits. Their current permit requires that: “Compliance tests shall be conducted in accordance with Methods 1 through 5, 9 and the procedures for opacity contained in Appendix A of the CFR, Title 40, Part 60 .11. Unless

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specified otherwise by the Department, the test shall also follow the procedures in Subpart A, *General Provisions* in CFR Title 40, Part 60.8 (f).” (Permit 1652M2, p. 6). This stipulation will remain in place after repeal. Their permit also requires that all test protocols must be approved by the Department.

Any newly-constructed lime manufacturing facility would be subject to federally-enforceable permit conditions pursuant to Part 72 that stipulate how stack testing is to be conducted. This is in addition to federal requirements stipulated by NSPS HH and/or NESHAP AAAAA.

**20.2.20.114 NMAC, CONTINUOUS EMISSION MONITORS - NEW PLANTS** “The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow operation of the new lime manufacturing plant unless the plant is equipped with continuous monitoring systems as specified in 40 CFR, Part 60, Subpart HH, Section 60.343.”

New lime manufacturing plants would continue to be subject to NSPS Subpart HH, §60.343, *Monitoring of emissions and operations*:

(a) “The owner or operator of a facility. . . 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. . . .”

The requirement for continuous monitoring systems can be incorporated as a condition of a federally-enforceable permit pursuant to 20.2.72.210.C(3) NMAC:

(3) “Instrumentation to monitor and record emission data including continuous emission monitoring, if appropriate.”

NMED concludes that all sections of Part 20 may be repealed with no backsliding allowed for New Mexico’s only applicable source, Lhoist.

## **V. Public Notice and Outreach**

Stakeholder outreach was initiated on 5/11/15, with a list serve notice sent to potentially affected parties, outlining the AQB’s proposal and soliciting comments, shown as NMED Exhibit # 4a. Only one comment was received, shown as NMED Exhibit #4b.

The AQB offered to host a public information meeting if a request was made by the public. This opportunity was publicized as shown by NMED Exhibits: 5a. Albuquerque Journal (print), 7/22/18; 5b. Albuquerque Journal (eJournal), 7/24/18; 5c. List Serve, 7/20/18; 5d. Indian tribes, pueblos and nations, 7/20/18; 5e. Land Grants, 7/20/18; 5f. NMED Field Offices, 7/20/18; 5g.

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Los Alamos Daily Post, 7/22/18; and 5h. Belen and Valencia Co. Administrations (USPS), 7-19-18. No request was received.

Public notice of the rulemaking hearing was provided as shown by NMED Exhibits: 6a. Albuquerque Journal (English and Spanish), 8/26/18; 6b. NM Register (English and Spanish), 8/28/18; 6c. Valencia County News Bulletin 8/23/18; 6d. List Serve, 8/23/18; 6e. NM Legislative Council Service, 8/23/18; 6f. NM Sunshine Portal (English and Spanish), 8/24/18; 6g. Indian tribes, pueblos and nations, 7/23/18; 6h. Land Grants within 4-mile radius of Lhoist, 8/23/18; 6i. NMED Field Offices 8/23/18; 6j. Previous commenter, 8/23/18; and 6k. Belen and Valencia Co. Administrations (USPS), 8-23-18. This notice stated that the Board may make a decision on the proposed repeal at the conclusion of the hearing or may convene at a later date to consider action on the proposed repeal. The Department received no negative comments from the public.

Comments from EPA and the AQB's responses are shown as NMED Exhibits #7b, 8b and 8c.

The Department has also complied with the Small Business Regulatory Relief Act, as shown by NMED Exhibit #12. This Act establishes a review process, not a standard or outcome. The Department must consider the effect of the proposed rule repeal on small businesses. If the Department identifies an adverse effect, it must consider the available methods to reduce the effect, but even if there are no such methods, the Board may approve the proposed rule repeal to accomplish the objectives of the applicable law. The Department does not foresee that the proposed repeal of Part 20 will have an adverse impact on the citizens or businesses of New Mexico.

## **VI. Conclusion**

The Board has the authority to adopt the proposed repeal pursuant to NMSA 1978, §§74-2-5 B & C.

In considering the proposed repeal, the Board is required by the Air Quality Control Act, NMSA 1978, §74-2-5.E, to give weight it deems appropriate to all facts and circumstances, including but not limited to (1) character and degree of injury to or interference with health, welfare, visibility and property; (2) the public interest, including the social and economic value of the sources and subjects of air contaminants; and (3) technical practicability and economic reasonableness of reducing or eliminating air contaminants from the sources involved and previous experience with equipment and methods available to control the air contaminants involved.

The proposed repeal does not cause injury or interfere with health, welfare, visibility and property, in accordance with NMSA, §74-2-5.E(1). In addition, in accordance with NMSA, §74-

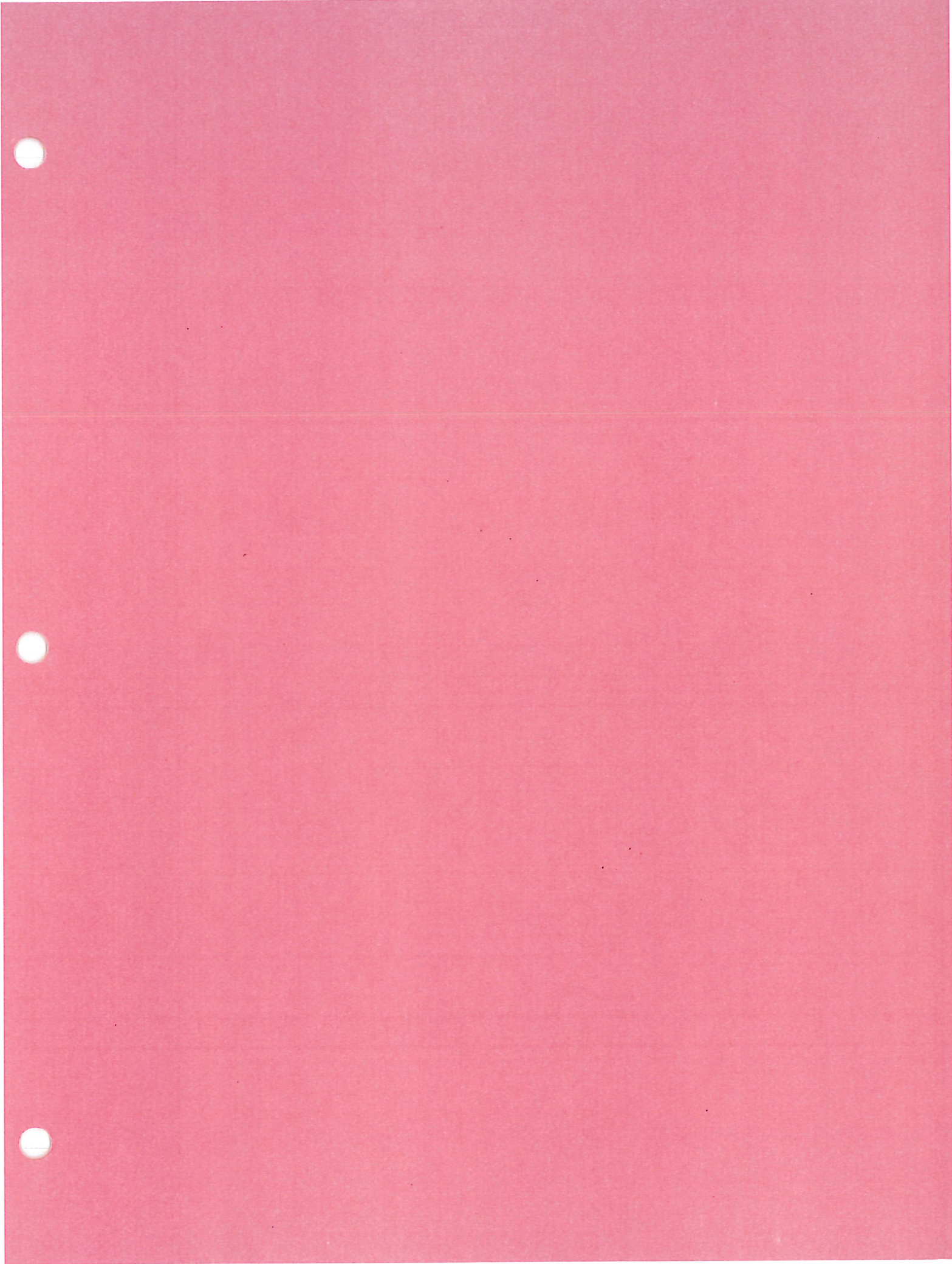
11/5/18

2-5.E(2), the Department concludes that the public interest will be served by implementation of the proposed repeal by removing an outdated rule which is inconsistent with federal standards. Finally, the proposed repeal requires no new technology and, with no cost associated with the repeal, is economically reasonable, in accordance with NMSA, §74-2-5.E(3).

The Department concludes that the factors specified by NMSA 1978, §74-2-5.E all weigh in favor of adopting the proposed repeal.

This concludes my testimony before the Environmental Improvement Board on the proposed repeal of Part 20. I respectfully request that the Board adopt the proposed repeal and SIP revision at the conclusion of this hearing.





# NEAL T. BUTT

## SUMMARY OF QUALIFICATIONS

- Expert in the promulgation of State Implementation Plans and rules governing air quality. Developed over 100 rule amendments and 9 stand-alone SIPs. Testified before an environmental regulatory board over 48 times.
- Drafted 13 'Negative Declarations' for affected facilities; and 6 attainment area designation recommendations.
- Over 21 years of experience in the field of Environmental Health, the last 17 of which specializing in Air Quality - Control Strategies including: Regional Haze; Nonattainment; Transportation Conformity and Environmental Justice.
- Provided staff support to the A/BC Air Quality Control Board for over 120 monthly meetings and hearings.
- Excellent working relationship with EPA management and staff in Region VI office (Dallas).

## EDUCATION:

<b>Bachelor of Arts in Environmental Planning and Design</b>	<i>University of New Mexico</i>	2012
<b>Pre-Management Development Program with Distinction</b> Equivalent to 2 years service credit as a supervisor for entry-level supervisory positions within City of Albuquerque	<i>Public Service University</i>	2006
<b>Associate of Applied Science in Criminal Justice with Honors</b>	<i>TVI Community College</i>	2001
<b>Certificate of Hazardous Waste Management</b>	<i>WERC - University of New Mexico</i>	1999
<b>Associate of Applied Science in Environmental Technology with Highest Honors</b>	<i>TVI</i>	1998
<b>Master of Science in Biology (Wildlife Management)</b> Scholarships: "Most Promising Field Biologist" and "Excellence in Field Biology"	<i>University of North Dakota</i>	1993
<b>Bachelor of Science in Biology (Zoology) Dean's List (1986)</b>	<i>University of New Mexico</i>	1989

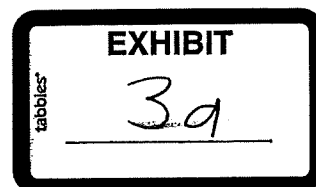
## PROFESSIONAL EXPERIENCE:

<b>Environmental Analyst</b> Planning Section, Air Quality Bureau, New Mexico Environment Department	March 2014 - Present Santa Fe, NM
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Serve as project manager developing control strategies to regulate air pollution emissions in New Mexico. Manage multiple projects with minimal supervision. Develop complex and potentially controversial concepts into detailed, functional air quality plans and regulations that meet the goals of the AQB and NMED; collaborate with stakeholders with disparate interests to build consent; conduct public outreach; testify before the Environmental Improvement Board; and submit adopted plans, regulations and supporting legal documentation to EPA for approval. Research air quality issues, analyze data, prepare reports for management; perform technical review of proposed construction projects (Environmental Impact Reviews) and mining permit applications. Participate in compliance inspections of industrial facilities including: Jal Gas Plant, WPX Energy, Tyrone Mine, and Pyramid Generating Station. Assist Permitting Section with the review and issuance of Notices of Intent. Conversant with TEMPO permitting database. Records Liaison Officer, maintaining permanent AQB Regulatory Archives.

<b>Environmental Health Scientist</b> Control Strategies Section, Air Quality Division, Environmental Health Department	July 2007 - March 2014 Albuquerque, NM
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Developed and implemented long range plans, programs and special projects in the field of municipal air quality. Served as *Air Quality Regulation Development Coordinator* promulgating state rules that govern air quality, through the Albuquerque - Bernalillo County Air Quality Control Board (AQCB), including research, drafting and editing of technical documents, hearing preparation, testimony, filing rules with the State Records Center & Archives, and submittal of rules and SIPs to EPA for approval. Coordinated internal committees, collaborated with other agencies, conducted public outreach and adhered to tight schedules and EPA Air Program Priorities. Served on interview panels to hire AQCB Liaison candidates.





**Air Quality Planner**

Control Strategies Section, Air Quality Division, Environmental Health Department

May 2005 - July 2007

Albuquerque, NM

Performed technical review of *Air Quality Impact Analyses* required for large-scale land use development plans using air quality emissions analysis modeling. Implemented the Carbon Monoxide Limited Maintenance Plan for the Bernalillo County nonattainment area. Served as liaison for transportation conformity to the Mid-Region Council of Governments (MRCOG), necessitating the review, analysis and technical consultation on transportation plans and project-level CO hot spot analyses, and facilitating interagency consultation. Promulgated air quality regulations and SIPs through the AQCB and submitted to EPA for approval. Established effective working relationships with EPA, regulated industry, elected officials, other air agencies and the general public.

**Environmental Health Specialist I**

Control Strategies Section, Air Quality Division, Environmental Health Department

October 2001 - May 2005

Albuquerque, NM

Developed control strategies, regulations and SIPs used to improve air quality. Developed working knowledge of the principles and practices of environmental health and air quality, including federal, state and local laws, statutes, ordinances, codes, regulations and policies. Served as staff to the AQCB, Hearing Clerk, Custodian of Records and webmaster; planned hearings and monthly meetings, published public notices, solicited hearing officers, court reporters and interpreters; and managed electronic and paper records. Trained in New Mexico Administrative Code (NMAC).

**Certified Field Training Officer**

Albuquerque Animal Welfare Department

April 1997 - October 2001

Albuquerque, NM

**Animal Control Officer**

Corrales Police Department

October 1993 - July 1994

Corrales NM

Interpreted, applied, enforced and prosecuted federal, state and local animal welfare laws, statutes, ordinances, codes, regulations and policies. Followed established protocol for animal care and control including, impoundment, chemical tranquilization, bite investigation, quarantine, cruelty investigation, equine neglect, and hoarding behavior. Conducted training for Animal Control Officer Recruits. Assisted law enforcement with nuisance urban wildlife, protected species, game animals, poisonous snakes and protective custody situations. Job is very high profile requiring adept handling of confrontational situations and prudent enforcement of laws while maintaining positive public relations. Served on the U.S. Humane Society task force implementation team.

**Lab Technician III**

Advanced Materials Laboratory, Center for Radioactive Waste Management

October 1996 - December 1998

Albuquerque, NM

Assisted principal investigator with lab research on the bioremediation of uranium-contaminated soil and groundwater collected at sites in New Mexico, Arizona, and Germany. Assisted with research and field demonstration of in situ bioremediation as applied to a nitrate-contaminated groundwater plume located in Albuquerque's South Valley. Emphasis placed on analyzing the behavior of native bacteria under field-like conditions when supplemented with different types of nutrient amendments.

**Biology Instructor**

Department of Biology, University of North Dakota

August 1990 - December 1992

Grand Forks, ND

Taught introductory concepts of biology as applied in the lab, including: laboratory protocol; scientific method; report writing; microscopy; chromatography; enzymes; pH; diffusion; osmosis; plant biology; cell biology; anatomy and physiology; genetics; evolution; taxonomy; zoology; animal behavior; ecology; conservation biology; and botany. Responsible for lab safety, lab preparation, drafting and administering exams, and conferring with students.

# KERWIN C. SINGLETON

## EDUCATION

Bachelor of Science, Chemical Engineering 1982

University of Missouri - Columbia

## EXPERIENCE

**New Mexico Environment Department** Santa Fe, New Mexico

August 2004 - Present

### **Planning Section Chief – Air Quality Bureau**

June 2018 – Present

The Planning Section of the Air Quality Bureau includes the Control Strategies, Dispersion Modeling, Emissions Inventory, and Small Business Assistance Programs. The control strategies section is responsible for preparing state implementation plan, policies, and regulations for air quality. The dispersion modeling and emission inventory section ensures that all air dispersion modeling analyses submitted to our agency are accurate and complete, assists major sources with the submittal of annual emissions inventories, and performs a quality control check of submitted data prior to certification and submittal to the US EPA. The Small Business Assistance Program assists small businesses in meeting air quality regulatory requirements.

### **Manager, Control Strategies - Air Quality Bureau**

July 2008 – June 2018

As the Manager of Control Strategies, I managed a staff of environmental analysts for the development of air quality plans and regulations for the State of New Mexico, including providing guidance and assistance to staff to ensure that plans and regulations are successfully adopted by the Environmental Improvement Board; providing technical, fiscal, performance and administrative analysis on draft bills during the legislative session; and representing the Department at stakeholder meetings on issues related to air quality plans and rule development.

### **Environmental Scientist & Specialist – Advanced**

August 2004 - July 2008

As a permit writer, I processed all assigned air quality permit applications (New Source Review, Prevention of Significant Deterioration, and Title V) to final action before or by regulatory deadlines in accordance with approved Department policies and standards and performed special projects to achieve the enhancement of the Bureau's goals.

### **Concept Technical Group Engineer** Menomonee Falls, Wisconsin

March 2003 - July 2004

As a staff engineer, I provided project-specific environmental support to the Johnson Controls Battery Group manufacturing sites and group headquarters, including preparation of air quality construction permit applications with detailed emissions calculations and supporting documentation; annual emission inventories; Toxic Release Inventory Form R reports; updating storm water management and contingency plans; and development of standardized environmental procedures.

### **RMT, Inc.** Chicago, Illinois

December 1994 - January 2003

#### **Senior Project Manager/Operations Manager**

As a Senior Project Manager, I guided clients through the complexities of air pollution permitting, reporting and compliance in multiple states to minimize their regulatory burden and obtain permits according to schedule. As the Chicago Operations Manager, managed three staff engineers, identified and developing project opportunities for engineers to meet or exceed utilization goals, and provided training and workload leveling.

### **Johnson Controls Battery Group, Inc.** Milwaukee, Wisconsin

March 1992 - December 1994

#### **Environmental Engineer**

As an Environmental Engineer, I maintained air quality compliance at thirteen lead-acid battery plants and successfully obtained air construction permits to support all new equipment installations and plant modifications.

EXHIBIT

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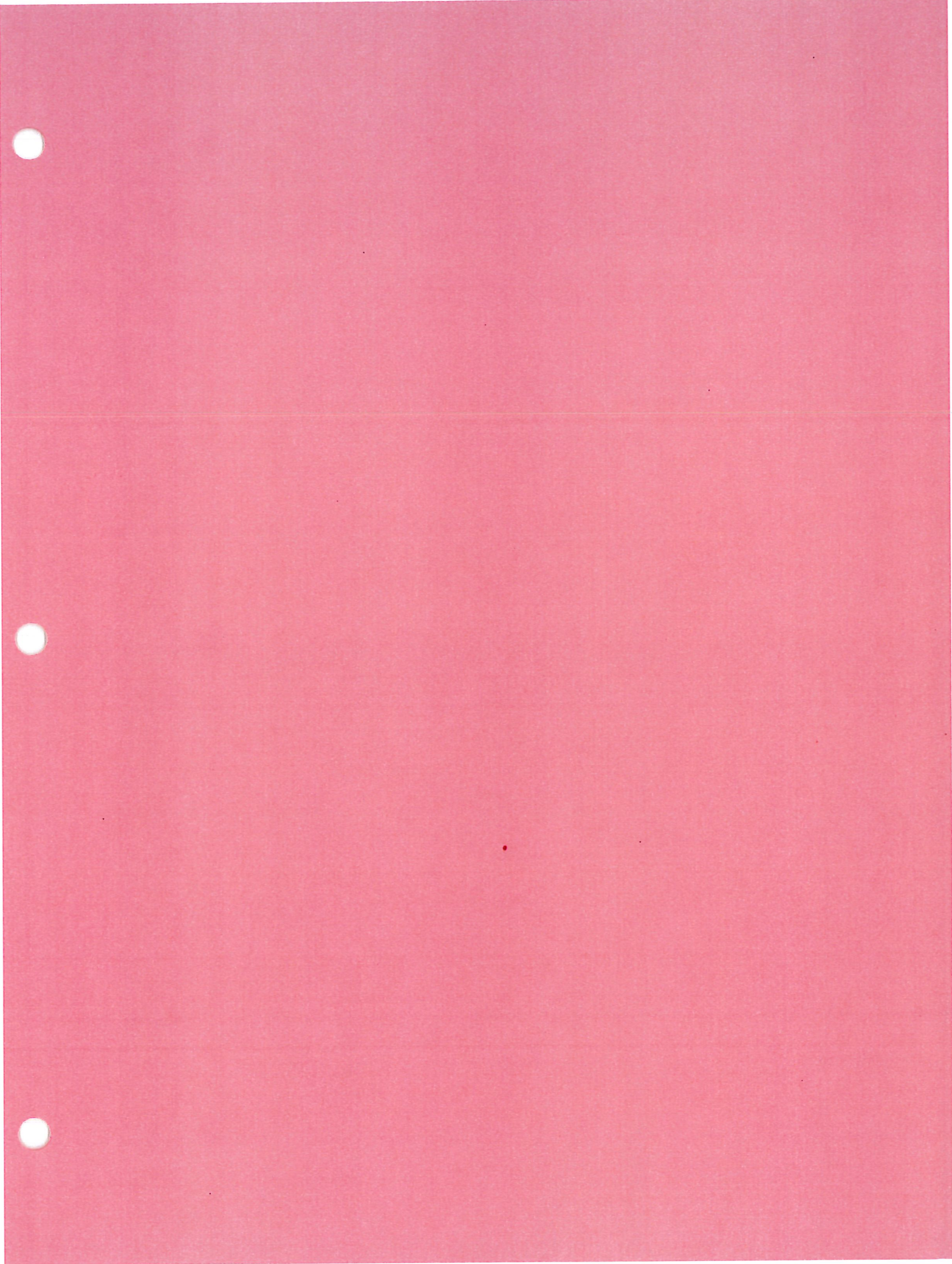
**Olin Corp. – Brass Group/Winchester Operations**      East Alton, Illinois      June 1989 - March 1992  
**Senior Environmental Engineer**

As a Senior Environmental Engineer, I prepared and submitted all air pollution permit applications and annual emissions reports for the casting plant, brass mill and Winchester ammunition operations. My duties also included the development and implementation of an obsolete chemical identification project to minimize future liabilities; the investigation and categorization of the use of hazardous solvents and implementation of non-hazardous alternatives that resulted in the elimination of several waste streams and a reduction of waste management costs; and providing comprehensive environmental permitting and compliance assistance for satellite operations in Missouri and Ohio.

**Missouri Department of Natural Resources** St. Louis, MO      July 1984 - June 1989  
**Environmental Engineer I/II**

As an Environmental Engineer, I conducted inspections of hazardous waste generators and treatment/storage/disposal Facilities in the St. Louis region for compliance with state and federal regulations, and represented the Department at industrial association meetings and seminars.





## Butt, Neal, NMENV

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**From:** Butt, Neal, NMENV  
**Sent:** Monday, May 11, 2015 3:10 PM  
**To:** Butt, Neal, NMENV  
**Subject:** Proposed Repeal of 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter



**Air Quality Bureau**  
Announcement Regarding

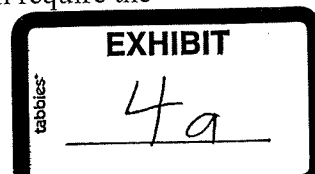
### ***Regulatory and State Implementation Plan Developments and Actions***

The Improving Environmental Permitting Initial Report identified 20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter* (Part 20) as one of several rules that should be reviewed for potential revision or repeal. Part 20 establishes particulate matter (PM) emissions limits for lime manufacturing plants and lime hydrators. This rule is part of the New Mexico State Implementation Plan (SIP) for air quality. Part 20 differs from federal rules that regulate lime manufacturing (40 CFR 60, Subpart HH, *Standards of Performance for Lime Manufacturing Plants* (NSPS Subpart HH) and 40 CFR 63, Subpart AAAAA, *National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants* (NESHAP Subpart AAAAA)) as follows: (1) the Part 20 PM emission limit for lime kilns that are subject to NSPS Subpart HH but not NESHAP Subpart AAAAA is one-half that of the revised New Source Performance Standards (NSPS); (2) the Part 20 opacity limit is more stringent than that required by NSPS Subpart HH; and (3) Part 20 regulates PM emissions from lime hydrators, about which federal rules are silent. Currently, there are no facilities in New Mexico subject to either NSPS Subpart HH or NESHAP Subpart AAAAA. NMED intends to propose to the Environmental Improvement Board (EIB) that this rule be repealed.

A repeal of Part 20 would eliminate the 0.15 pound per ton of lime feed PM emissions limit for lime hydrators. Affected facilities would only be required to comply with the applicable portions of NSPS Subpart HH and NESHAP Subpart AAAAA.

Because Part 20 is part of the NM SIP, NMED would be required to demonstrate to the Environmental Protection Agency (EPA) that the proposed repeal will not negatively affect the attainment or maintenance of any National Ambient Air Quality Standard (NAAQS), as required by Section 110(l) of the Clean Air Act (CAA). The 110(l) demonstration would provide that:

1. There are no lime manufacturing sources in New Mexico subject to NSPS Subpart HH or NESHAP Subpart AAAAA that would be affected by the repeal of Part 20.
2. The only source currently subject to Part 20 is Lhoist North America's (a/k/a Chemical Lime Co.) lime hydrator, located in Belen, NM. The most recent dispersion modeling analysis conducted for this facility demonstrates that the facility will not cause a violation of the NAAQS, as permitted and constructed.
3. This source's potential to emit PM is based on a permit limit, which is federally enforceable via SIP-approved 20.2.72 NMAC, *Construction Permits* (Part 72). If Part 20 were repealed, an NSR permit would still be required for the Lhoist facility. Should Lhoist apply for a permit revision, Part 72 would still require the



applicant to show compliance with the NAAQS. Therefore, the facility would not interfere with attainment or maintenance of the NAAQS.

The proposed repealed rule may be downloaded from the link below. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by June 8, 2015.

[https://www.env.nm.gov/aqb/prop\\_regs.html](https://www.env.nm.gov/aqb/prop_regs.html)

New Mexico Environment Department  
Air Quality Bureau  
525 Camino de los Marquez, Suite 1  
Santa Fe, New Mexico, 87505-1816  
Proposed Air Quality Regulations and Plans  
(505) 476-4300

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**From:** Jim McCaffery  
**To:** Butt, Neal, NMENV  
**Subject:** Re: Proposed Repeal of 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter  
**Date:** Tuesday, May 26, 2015 5:31:43 PM

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Thanks for the information.

Jim McCaffery

On May 26, 2015, at 4:50 PM, Butt, Neal, NMENV <Neal.Butt@state.nm.us> wrote:

Mr. McCaffery,

Thank you for your interest in our proposal to repeal 20.2.20 NMAC.

The "The Improving Environmental Permitting Initial Report" (November 14, 2012) <https://www.env.nm.gov/aqb/permit/index.htm> identified 20.2.20 NMAC - Lime Manufacturing Plants - Particulate Matter as one of several rules that may be outdated and should be reviewed for potential revision or repeal. Three other rules identified in this report have already been repealed by the Department: 20.2.12 NMAC - Cement Kilns; 20.2.85 NMAC - Mercury Emission Standards; and 20.2.98 NMAC - General Conformity.

This rule was originally adopted to control particulate matter emissions from two facilities that are no longer in operation. Although the Lime Manufacturing Rule is part of the New Mexico State Implementation Plan (SIP) for air quality, the AQB has determined that the repeal of the rule will not cause a violation of any National Ambient Air Quality Standard (NAAQS). In addition, there are no lime manufacturing facilities in New Mexico. If a new facility were to be constructed, it would be subject to industry-specific federal rules. The only facility that is subject to the rule has been issued an air quality permit that will ensure that no NAAQS are exceeded.

The AQB will hold an information Open House after a hearing date for the repeal has been set. You will be notified of the Open House by another Listserv announcement. We would be happy to discuss any additional questions or concerns with you at that time.

Regards,

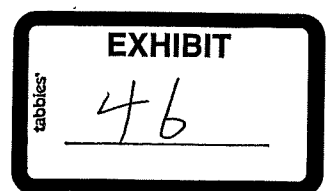
Neal T. Butt  
Environmental Scientist & Specialist  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office  
(505) 222-9506 [Monday & Friday]

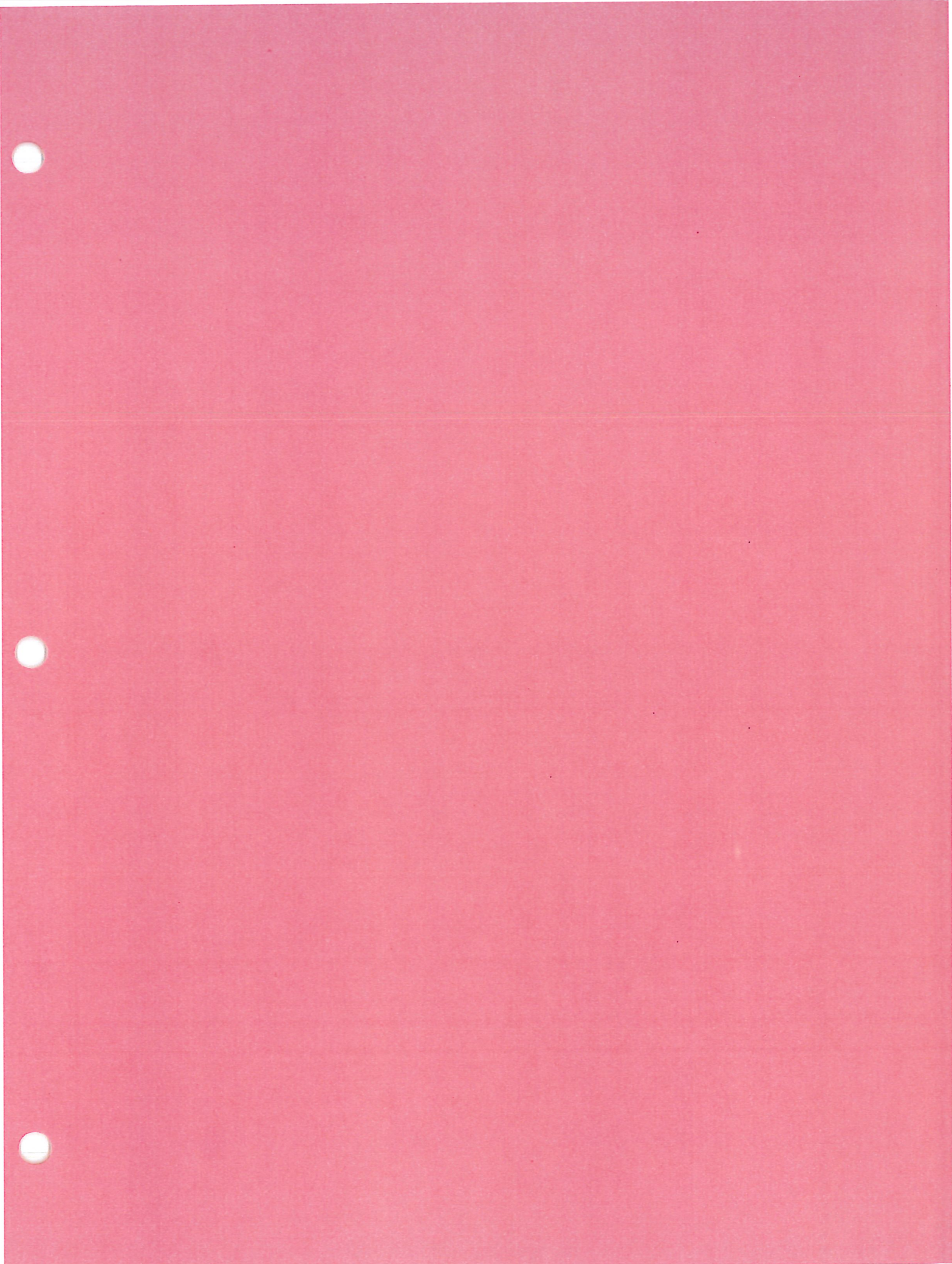
-----Original Message-----

From: Jim McCaffery [<mailto:Jim@navajo.net>]  
Sent: Thursday, May 14, 2015 7:08 AM  
To: Butt, Neal, NMENV  
Subject: Re: Proposed Repeal of 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter



Who benefits from the repeal of this regulation? This seems like quite a very selective exemption.

Thanks,  
Jim McCaffery







**Notice of Opportunity for a Public Information Meeting  
Regarding the Proposed Repeal of 20.2.20 NMAC – Lime  
Manufacturing Plants – Particulate Matter.**

The New Mexico Environment Department (NMED) is proposing to repeal 20.2.20 NMAC – Lime Manufacturing Plants – Particulate Matter. There are no lime manufacturing plants in New Mexico, and only one hydrator, the Lhoist NA lime hydrating plant in Belen, Valencia County.

This rule regulates PM, which encompasses: total suspended particulate matter (TSP); PM10 (particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers); and PM2.5 (particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers). When this rule was adopted on November 15, 1978, it contained the same particulate matter (PM) emission standards for lime manufacturing plants as those contained in the federal Standards of Performance for Lime Manufacturing Plants (NSPS Subpart HH). Since that time, NSPS Subpart HH has changed substantively, while the State rule has not. The National Ambient Air Quality Standards (NAAQS) for TSP were repealed in 1987 and replaced with PM10 and PM2.5 NAAQS.

The repeal of 20.2.20 NMAC will not interfere with the attainment or maintenance of any applicable NAAQS. All counties are well below the PM2.5 NAAQS, and except for a portion of Anthony, NM (Doña Ana County), are below the PM10 NAAQS. Exceedances in Doña Ana County are due to windblown dust, and are not due to lime manufacturing or lime hydrators regulated by 20.2.20 NMAC. Existing federal and state rules are sufficient to protect public health and the environment.

The full text of the Air Quality Bureau's (Bureau) proposed regulation repeal and documents related to the proposed repeal of Part 20 are available for download at <https://www.env.nm.gov/air-quality/proposed-regs/>, or in hard copy at the Bureau's main office, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal.

If you are interested in having the Bureau host a Public Information Meeting on the proposed repeal of Part 20, please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) by August 22, 2018. The Bureau is offering to conduct a public meeting, during the early evening in Belen. The meeting would begin with a short presentation, followed by a question and answer period. Arrangements for interpretation during the meeting will be available upon request in advance of the meeting. In addition, persons with disabilities can request additional services and arrangements necessary for participation in the meeting.

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, send an email to:

[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us).

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to learn how and where to file a complaint of discrimination.

Journal: July 22, 2018

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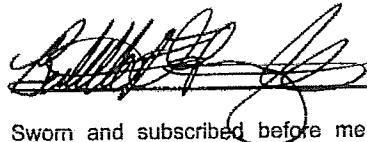
## STATE OF NEW MEXICO

County of Bernalillo SS

NOTICE OF OPPORTU  
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EGARDING THE PROPO  
SED REPEAL OF 2022  
ON MA CLIMATE MANUFAC  
TURING PLANTS PARTI  
CULATE MATTER THE  
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Bernadette Gonzales, the undersigned, on oath states that she is an authorized Representative of The Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

07/22/2018



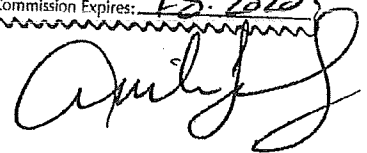
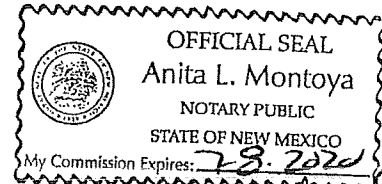
Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this

22 day of July of 2018

PRICE \$249.89

Statement to come at the end of month.

ACCOUNT NUMBER 1007594



# Albuquerque Journal

Published in the Albuquerque Journal on Tuesday July 24, 2018

Notice of Opportunity for a Public Information Meeting Regarding the Proposed Repeal of 20.2.20 NMAC Lime Manufacturing Plants Particulate Matter. The New Mexico Environment Department (NMED) is proposing to repeal 20.2.20 NMAC Lime Manufacturing Plants Particulate Matter. There are no lime manufacturing plants in New Mexico, and only one hydrator, the Lhoist NA lime hydrating plant in Belen, Valencia County. This rule regulates PM, which encompasses: total suspended particulate matter (TSP); PM10 (particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers); and PM2.5 (particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers). When this rule was adopted on November 15, 1978, it contained the same particulate matter (PM) emission standards for lime manufacturing plants as those contained in the federal Standards of Performance for Lime Manufacturing Plants (NSPS Subpart HH). Since that time, NSPS Subpart HH has changed substantively, while the State rule has not. The National Ambient Air Quality Standards (NAAQS) for TSP were repealed in 1987 and replaced with PM10 and PM2.5 NAAQS. The repeal of 20.2.20 NMAC will not interfere with the attainment or maintenance of any applicable NAAQS. All counties are well below the PM2.5 NAAQS, and except for a portion of Anthony, NM (Doa Ana County), are below the PM10 NAAQS. Exceedances in Doa Ana County are due to windblown dust, and are not due to lime manufacturing or lime hydrators regulated by 20.2.20 NMAC. Existing federal and state rules are sufficient to protect public health and the environment. The full text of the Air Quality Bureau's (Bureau) proposed regulation repeal and documents related to the proposed repeal of Part 20 are available for download at <https://www.env.nm.gov/air-quality/proposed-regs/>, or in hard copy at the Bureau's main office, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. If you are interested in having the Bureau host a Public Information Meeting on the proposed repeal of Part 20, please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) by August 22, 2018. The Bureau is offering to conduct a public meeting, during the early evening in Belen. The meeting would begin with a short presentation, followed by a question and answer period. Arrangements for interpretation during the meeting will be available upon request in advance of the meeting. In addition, persons with disabilities can request additional services and arrangements necessary for participation in the meeting. NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, send an email to: [nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us). If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination. Journal: July 22, 2018

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**From:** [New Mexico Environment Department](#)  
**To:** [Butt, Neal, NMENV](#)  
**Subject:** Notice of Opportunity for a Public Information Meeting Regarding the Proposed Repeal of 20.2.20 NMAC – Lime Manufacturing Plants – Particulate Matter  
**Date:** Friday, July 20, 2018 8:45:18 AM

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NMED Banner



## Air Quality Bureau Regulatory and SIP Bulletin

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### **Notice of Opportunity for a Public Information Meeting Regarding the Proposed Repeal of 20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter.***

The New Mexico Environment Department (NMED) is proposing to repeal 20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter*. There are no lime manufacturing plants in New Mexico, and only one hydrator, the Lhoist NA lime hydrating plant in Belen, Valencia County.

This rule regulates PM, which encompasses: Total Suspended Particulate matter (TSP); PM10 (particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers); and PM2.5 (particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers). When this rule was adopted on November 15, 1978, it contained the same particulate matter (PM) emission standards for lime manufacturing plants as those contained in the federal *Standards of Performance for Lime Manufacturing Plants* (NSPS Subpart HH). Since that time, NSPS Subpart HH has changed substantively, while the State rule has not. The National Ambient Air Quality Standards (NAAQS) for TSP were repealed in 1987 and replaced with PM10 and PM2.5 NAAQS.

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The full text of the Air Quality Bureau's (Bureau) proposed regulation repeal and documents related to the proposed repeal of 20.2.20 NMAC are available for download at <https://www.env.nm.gov/air-quality/proposed-regs/>, or in hard copy at

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the Bureau's main office, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal.

If you are interested in having the Bureau host a Public Information Meeting on the proposed repeal of 20.2.20 NMAC, please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) by August 22, 2018. The Bureau is offering to conduct a public meeting, during the early evening in Belen. The meeting would begin with a short presentation, followed by a question and answer period. Arrangements for interpretation during the meeting will be available upon request in advance of the meeting. In addition, persons with disabilities can request additional services and arrangements necessary for participation in the meeting.

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[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us).

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For additional information concerning this bulletin, please contact Neal Butt, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505, (505) 476-4317, [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

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NMED Air Quality Bureau

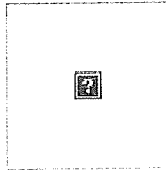
525 Camino de los Marquez, Suite 1

Santa Fe, New Mexico, 87505-1816

(505) 476-4300

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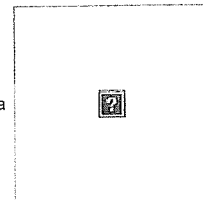
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**From:** Butt, Neal, NMENV  
**To:** "Acoma Pueblo:"; "Isleta:"; "Jemez:"; "Nambe:"; "Laguna:"; "Pojoaque:"; "Sandia:";  
"shenderson@sandiapueblo.nsn.us"; "Santa Ana:"; "maxine.paul@santaana-nsn.gov"; "Santa Clara:"; "Navajo  
Nation:"; "Jicarilla:"; "Mescalero:"; "Taos Pueblo:"; "Santo Domingo:"; "Picuris Pueblo:"; "Ohkay Owingeh:";  
"Cochiti:"  
**Cc:** Singleton, Kerwin, NMENV  
**Subject:** Notice of Opportunity for a Public Information Meeting Regarding the Proposed Repeal of 20.2.20 NMAC – Lime  
Manufacturing Plants – Particulate Matter.  
**Date:** Friday, July 20, 2018 8:47:00 AM  
**Attachments:** Notice of Availability of PIM Proposed Repeal of 20 2 20 NMAC 7-17-18.pdf

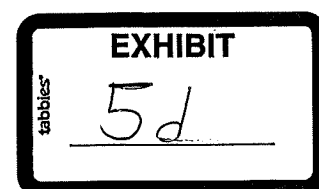
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If you have questions regarding the attached notice, please contact

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office (505) 269-0767 [Monday & Friday]



**From:** Butt, Neal, NMENV  
**To:** ["nmlandgrantcouncil@unm.edu"](mailto:nmlandgrantcouncil@unm.edu)  
**Cc:** [Singleton, Kerwin, NMENV](#)  
**Subject:** Notice of Opportunity for a Public Information Meeting Regarding the Proposed Repeal of 20.2.20 NMAC – Lime Manufacturing Plants – Particulate Matter.  
**Date:** Friday, July 20, 2018 8:47:00 AM  
**Attachments:** [Notice of Availability of PIM Proposed Repeal of 20.2.20 NMAC 7-17-18.pdf](#)

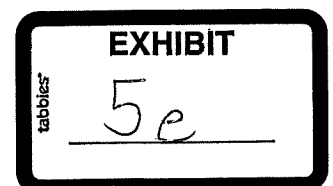
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If you have questions regarding the attached notice, please contact

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office (505) 269-0767 [Monday & Friday]



**From:** Butt, Neal, NMENV  
**To:** Chavez, William, NMENV  
**Cc:** Singleton, Kerwin, NMENV  
**Subject:** Request to post legal notice in NMED Field offices  
**Date:** Friday, July 20, 2018 8:47:00 AM  
**Attachments:** Notice of Availability of PIM Proposed Repeal of 20 2 20 NMAC 7-17-18.docx

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Bill,

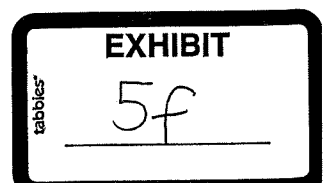
Could you please have this legal notice posted in each of your Field offices? If you have any questions, please let me know.

Thank you,

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
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## NMED Offers To Hold Public Information Meetings

Submitted by Carol A. Clark on July 22, 2018 - 8:30am

NMED News:

The New Mexico Environment Department (NMED) is proposing to repeal 20.2.20NMAC – Lime Manufacturing Plants – Particulate Matter.

There are no lime manufacturing plants in New Mexico, and only one hydrator, the Lhoist NA lime hydrating plant in Belen in Valencia County.

This rule regulates PM, which encompasses: Total Suspended Particulate matter (TSP); PM10 (particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers); and PM2.5 (particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers). When this rule was adopted on November 15, 1978, it contained the same particulate matter (PM) emission standards for lime manufacturing plants as those contained in the federal Standards of Performance for Lime Manufacturing Plants (NSPS Subpart HH). Since that time, NSPS Subpart HH has changed substantively, while the State rule has not. The National Ambient Air Quality Standards (NAAQS) for TSP were repealed in 1987 and replaced with PM10 and PM2.5 NAAQS.

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The full text of the Air Quality Bureau's (Bureau) proposed regulation repeal and documents related to the proposed repeal of 20.2.20 NMAC are available for download at <https://www.env.nm.gov/air-quality/proposed-regs/>, or in hard copy at the Bureau's main office, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505. Contact Neal Butt at 505.476.4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal.

Anyone interested in having the Bureau host a Public Information Meeting on the proposed repeal of 20.2.20 NMAC, should contact Neal Butt at 505.476.4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) by Aug. 22, 2018. The Bureau is offering to conduct a public meeting, during the early evening in Belen. The meeting would begin with a short presentation, followed by a question and answer period. Arrangements for interpretation during the meeting will be available upon request in advance of the meeting. In addition,



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persons with disabilities can request additional services and arrangements necessary for participation in the meeting.

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Belen, NM 87002

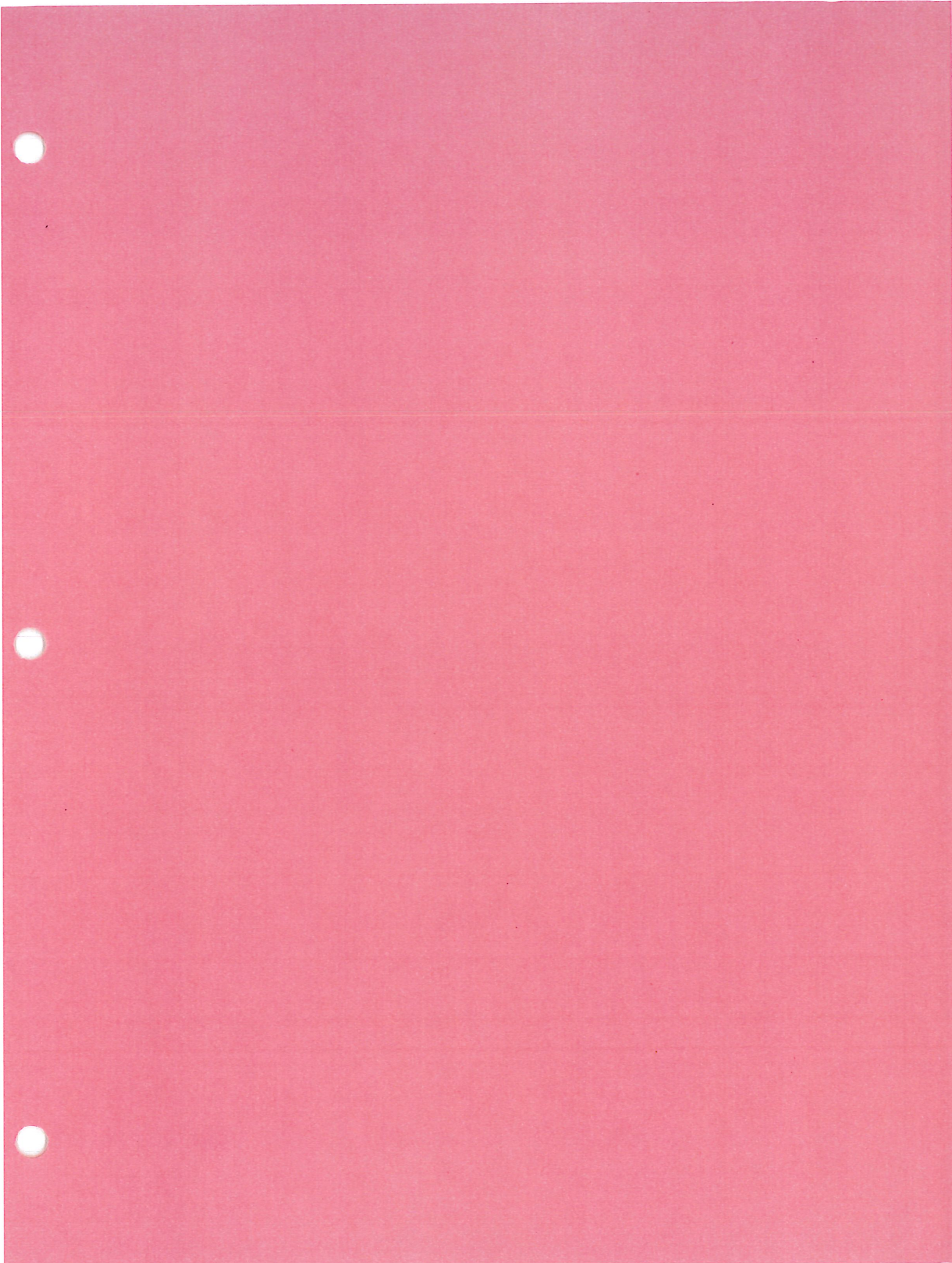
New Mexico Environment Department  
**AIR QUALITY BUREAU**  
525 Camino de Los Marquez  
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# Albuquerque Journal

Published in the Albuquerque Journal on Sunday August 26, 2018

**NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULEMAKING HEARING**

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter. The proponent of this regulatory amendment is the New Mexico Environment Department (NMED). The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC. The purpose of the proposed repeal of 20.2.20 NMAC is to remove outdated requirements. This rule was identified in the November 2012 Improving Environmental Permitting Report for potential revision or repeal. 20.2.20 NMAC establishes particulate matter emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the NAAQS for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP. The full text of NMED's proposed regulation repeal is available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/> or by contacting Neal Butt at 505-476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). The proposed regulation repeal may also be examined during office hours at the Air Quality Bureau office, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018. The hearing will be conducted in accordance with: 20.1.1 NMAC, Rulemaking Procedures Environmental Improvement Board; the Environmental Improvement Act, Section 74-1-9 NMSA 1978; the Air Quality Control Act, Section 74-2-6 NMSA 1978; and other applicable procedures. The Board may make a decision on the proposed regulation repeal at the conclusion of the hearing, or the Board may convene a meeting after the hearing to consider action on the proposal. All interested persons will be given a reasonable opportunity at the hearing to submit relevant evidence, data, views and arguments, orally or in writing, to introduce exhibits, and to examine witnesses. Persons wishing to present technical testimony must file with the Board a written Notice of Intent to do so. Pursuant to 20.1.1.302 NMAC, Technical Testimony, The Notice of Intent shall: (1) identify the person for whom the witness(es) will testify; (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background; (3) include a copy of the direct testimony of each technical witness in narrative form; (4) include the text of any recommended modifications to the proposed regulatory change; and (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules. Notices of Intent to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. Notices of Intent to present technical testimony should be submitted to: Pam Castaeda, Administrator for Boards & Commissions Environmental Improvement Board c/o New Mexico Environment Department P. O. Box 5469 Santa Fe, NM 87502 Phone: (505) 827-2425, Fax (505) 827-2836 e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us) Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony. A member of the general public who wishes to submit a written statement for the purpose of providing oral testimony at the hearing, shall file the written statement prior to the hearing. Persons having a disability and needing help to participate in this hearing process

**EXHIBIT**

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Pam Castaeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331. NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator New Mexico Environment Department 1190 St. Francis Dr., Suite N4050 P.O. Box 5469 Santa Fe, NM 87502 (505) 827-2855 [nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us) If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination. Journal: August 26, 2018



## NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULEMAKING HEARING

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter.

The proponent of this regulatory amendment is the New Mexico Environment Department (NMED).

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC. The purpose of the proposed repeal of 20.2.20 NMAC is to remove outdated requirements. This rule was identified in the November 2012 Improving Environmental Permitting Report for potential revision or repeal. 20.2.20 NMAC establishes particulate matter emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the NAAQS for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal is available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/> or by contacting Neal Butt at 505-476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). The proposed regulation repeal may also be examined during office hours at the Air Quality Bureau office, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

The hearing will be conducted in accordance with: 20.1.1 NMAC, Rulemaking Procedures - Environmental Improvement Board; the Environmental Improvement Act, Section 74-1-9 NMSA 1978; the Air Quality Control Act, Section 74-2-6 NMSA 1978; and other applicable procedures.

The Board may make a decision on the proposed regulation repeal at the conclusion of the hearing, or the Board may convene a meeting after the hearing to consider action on the proposal.

All interested persons will be given a reasonable opportunity at the hearing to submit relevant evidence, data, views and arguments, orally or in writing, to introduce exhibits, and to examine witnesses. Persons wishing to present technical testimony must file with the Board a written Notice of Intent to do so. Pursuant to 20.1.1.302 NMAC, Technical Testimony, The Notice of Intent shall:

- (1) identify the person for whom the witness(es) will testify;
- (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background;
- (3) include a copy of the direct testimony of each technical witness in narrative form;
- (4) include the text of any recommended modifications to the proposed regulatory change; and
- (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules.

Notices of Intent to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. Notices of Intent to present technical testimony should be submitted to:

Pam Castañeda, Administrator for Boards & Commissions  
Environmental Improvement Board  
c/o New Mexico Environment Department  
P. O. Box 5469  
Santa Fe, NM 87502  
Phone: (505) 827-2425, Fax (505) 827-2836  
e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us)

Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony.

A member of the general public who wishes to submit a written statement for the record, in lieu of providing oral testimony at the hearing, shall file the written statement prior to the hearing, or submit it at the hearing.

Persons having a disability and needing help to participate in this hearing process should contact Pam Castañeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact:

Kristine Pintado, Non-Discrimination Coordinator  
New Mexico Environment Department  
1190 St. Francis Dr., Suite N4050  
P.O. Box 5469  
Santa Fe, NM 87502  
(505) 827-2855  
[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us)

If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our web site at

<https://www.env.nm.gov/non-employee-discrimination-complaint-page/>  
to learn how and where to file a complaint of discrimination.

Journal: August 26, 2018

# AFFIDAVIT OF PUBLICATION

## STATE OF NEW MEXICO

County of Bernalillo SS

NEWMEXICOENVIRO  
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Bernadette Gonzales, the undersigned, on oath states that she is an authorized Representative of The Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

08/26/2018

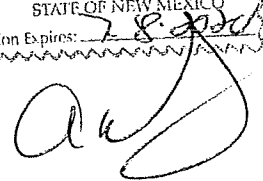
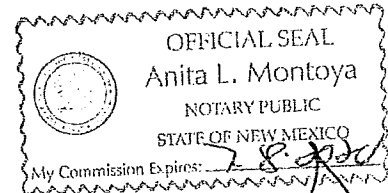


Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this  
26 day of August of 2018

PRICE \$339.68

Statement to come at the end of month.

ACCOUNT NUMBER 1007594



# Albuquerque Journal

Published in the Albuquerque Journal on Sunday August 26, 2018

**JUNTA DE MEJORA AMBIENTAL DE NUEVO MEXICO AVISO DE AUDIENCIA DE REGLAMENTACION** La Junta de Mejora Ambiental de Nuevo Mexico (Junta) celebrar una audiencia publica el 30 de noviembre de 2018, a partir de las 9:30 a.m., en el Edificio del Capitolio del Estado, en la sala 307, 490 Old Santa Fe Trail, Santa Fe, Nuevo Mexico. El proposito de la audiencia es considerar el asunto de EIB 18-07 (R), propuestas revisiones al Plan de Implementacion del Estado de Nuevo Mexico (SIP, por sus siglas en ingles) con relacion a las Reglamentacion de Control de Calidad del Aire establecidas en el Cdigo Administrativo de Nuevo Mexico (NMAC, por sus siglas en ingles) en 20.2.20 NMAC, Plantas de Fabricacion de Cal Material Particulado. El Departamento de Medio Ambiente de Nuevo Mexico (NMED, por sus siglas en ingles) es el que propone estas enmiendas normativas. El proposito de la audiencia publica es considerar y tomar una posible accion sobre una peticion de NMED para derogar la 20.2.20 NMAC. El proposito de la propuesta derogacion de la 20.2.20 NMAC es eliminar requisitos obsoletos. Esta norma se identifico en el Informe de Permiso de Mejora Ambiental de noviembre de 2012 para posible revision o derogacion. La 20.2.20 NMAC establece limites de emisiones de material particulado para plantas de fabricacion de cal e hidratantes de cal. La Oficina de Calidad del Aire ha llevado a cabo analisis rigurosos de esta norma y normas federales similares y ha llegado a la conclusion de que la norma se puede derogar sin relajar los controles de emisiones o un efecto adverso en la calidad del aire y no es necesaria para mantener los NAAQS para PM. Si la Junta la adopta, la derogacion de la 20.2.20 NMAC se presentara a EPA para considerar su eliminacion del SIP de Nuevo Mexico. El texto completo de la propuesta derogacion de esta norma de NMED est disponible en el sitio web de la Oficina de Calidad del Aire: <https://www.env.nm.gov/air-quality/proposed-regs/> o comunicandose con Neal Butt llamando al 505-476-4317, o por correo electronico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). La propuesta derogacion tambien se puede examinar durante horas hbiles en la Oficina de Calidad del Aire, 525 Camino de los Marquez, Suite 1, Santa Fe, Nuevo Mexico, 87505. Por favor comunquese con Neal Butt llamado al (505) 476-4317 o por el correo electronico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) si tiene preguntas o comentarios con relacion a la propuesta derogacion. Se ruega que las partes interesadas presenten comentarios a ms tardar el 28 de octubre del 2018. La audiencia se llevar a cabo en conformidad con la 20.1.1 NMAC, Procedimientos de Reglamentacion Junta de Mejora Ambiental; la Ley de Mejora Ambiental Seccion 74-1-9 NMSA 1978; la Ley de Control de Calidad del Aire, Seccion 74-2-6 NMSA 1978; y otros procedimientos pertinentes. La Junta puede tomar una decision sobre la propuesta derogacion normativa al terminar la audiencia o puede convocar a una reunion despues de la audiencia para considerar una accion sobre la propuesta. A todas las personas interesadas se les dar una oportunidad razonable en la audiencia para presentar pruebas pertinentes, informacion, puntos de vista y argumentos en forma oral o por escrito, presentar documentos u objetos de pruebas e interrogar a testigos. Las personas que deseen dar testimonio de caracter tecnico deben presentar por escrito a la Junta un Aviso de Intencion de hacerlo. De conformidad con la 20.1.1.302 NMAC, el Testimonio de caracter Tecnico, el Aviso de Intencion debe: (1) identificar a la persona por quien el testigo/os dar/n testimonio. (2) identificar a cada testigo tecnico que la persona presentar e indicar las cualificaciones del testigo incluyendo una descripcion de su historial academico y laboral; (3) incluir una copia de las declaraciones directas en forma narrativa de cada testigo tecnico; (4) incluir el texto de cualquier modificacion recomendada al cambio normativo propuesto; y (5) hacer una lista y adjuntar todas las pruebas que la persona anticipa ofrecer en la audiencia, incluso cualquier declaracion propuesta de las razones para adoptar las normas. Los Avisos de Intencion para presentar testimonio de caracter tecnico en la audiencia deben recibirse en la oficina de la Junta a ms tardar el 9 de noviembre de 2018 hasta las 5:00 pm, y deben hacer referencia al numero de expediente EIB 18-07 (R) y la fecha de la audiencia. Los Avisos de Intencion para presentar testimonio de caracter tecnico deben presentarse a: Pam Castaeda, Administrator for Boards & Commissions Environmental Improvement Board c/o New Mexico Environment Department P. O. Box 5469 Santa Fe, NM 87502 Tel.: (505) 827-2425, Fax (505) 827-2836 e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us) Cualquier miembro del pblico puede ofrecer declaraciones en la audiencia. No es necesario avisar



previamente para ofrecer declaraciones que no sean de carácter técnico en la audiencia. También, cualquier persona puede ofrecer pruebas con relación a su testimonio, siempre y cuando dichas pruebas no sean exageradamente repetitivas del testimonio. Un miembro del público que en lugar de hacer declaraciones orales en la audiencia desee presentar una declaración por escrito para que conste en el acta debe registrar la declaración por escrito antes de la audiencia o la puede entregar en la audiencia. Las personas con discapacidades y que necesiten ayuda para participar en este proceso deben comunicarse con Pam Castañeda, Administrator for Boards & Commissions, por lo menos diez días antes de la reunión o tan pronto como sea posible a la dirección indicada arriba o al correo electrónico: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). Los usuarios de TDY pueden acceder a su número por la Red de Retransmisión de Nuevo México llamando al 1-800-659-8331. El Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en inglés) no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o sexo en la administración de sus programas o actividades, según lo exigido por las leyes y reglamentos correspondientes. NMED es responsable de la coordinación de los esfuerzos de cumplimiento y la recepción de consultas relativas a los requisitos de no discriminación implementados por 40 C.F.R., partes 5 y 7, incluido el Título VI de la Ley de Derechos Civiles de 1964, según enmendada; Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975, Título IX de las Enmiendas de Educación de 1972 y la Sección 13 de las Enmiendas a la Ley Federal de Control de Contaminación del Agua de 1972. Si usted tiene preguntas sobre este aviso o sobre cualquier programa, política o procedimiento de no discriminación de NMED, usted puede comunicarse con la Coordinadora de No Discriminación: Kristine Pintado, Non-Discrimination Coordinator New Mexico Environment Department 1190 St. Francis Dr., Suite N4050 P.O. Box 5469 Santa Fe, NM 87502 (505) 827-2855 [nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us) Si usted cree que ha sido discriminado/a con relación a un programa o actividad de NMED, usted se puede comunicar con la coordinadora antidiscriminación mencionada arriba o visitar nuestro sitio electrónico: <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> para aprender más sobre cómo y dónde presentar una queja de discriminación. Journal: August 26, 2018



### JUNTA DE MEJORA AMBIENTAL DE NUEVO MÉXICO AVISO DE AUDIENCIA DE REGLAMENTACIÓN

La Junta de Mejora Ambiental de Nuevo México (Junta) celebrará una audiencia pública el 30 de noviembre de 2018, a partir de las 9:30 a.m., en el Edificio del Capitolio del Estado, en la sala 307, 490 Old Santa Fe Trail, Santa Fe, Nuevo México. El propósito de la audiencia es considerar el asunto de EIB 18-07 (R), propuestas revisiones al Plan de Implementación del Estado de Nuevo México (SIP, por sus siglas en Inglés) con relación a las Reglamentación de Control de Calidad del Aire establecidas en el Código Administrativo de Nuevo México (NMAC, por sus siglas en Inglés) en 20.2.20 NMAC, Plantas de Fabricación de Cal – Material Particulado.

El Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en Inglés) es el que propone estas enmiendas normativas.

El propósito de la audiencia pública es considerar y tomar una posible acción sobre una petición de NMED para derogar la 20.2.20 NMAC. El propósito de la propuesta derogación de la 20.2.20 NMAC es eliminar requisitos obsoletos. Esta norma se identificó en el Informe de Permiso de Mejora Ambiental de noviembre de 2012 para posible revisión o derogación. La 20.2.20 NMAC establece límites de emisiones de material particulado para plantas de fabricación de cal e hidratantes de cal. La Oficina de Calidad del Aire ha llevado a cabo análisis rigurosos de esta norma y normas federales similares y ha llegado a la conclusión de que la norma se puede derogar sin relajar los controles de emisiones o un efecto adverso en la calidad del aire y no es necesaria para mantener los NAAQS para PM. Si la Junta la adopta, la derogación de la 20.2.20 NMAC se presentaría a EPA para considerar su eliminación del SIP de Nuevo México.

El texto completo de la propuesta derogación de esta norma de NMED está disponible en el sitio web de la Oficina de Calidad del Aire: <https://www.env.nm.gov/air-quality/proposed-regs/> o comunicándose con Neal Butt llamando al 505-476-4317, o por correo electrónico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). La propuesta derogación también se puede examinar durante horas hábiles en la Oficina de Calidad del Aire, 525 Camino de los Marqués, Suite 1, Santa Fe, Nuevo México, 87505. Por favor comuníquese con Neal Butt llamando al (505) 476-4317 o por el correo electrónico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) si tiene preguntas o comentarios con relación a la propuesta derogación. Se ruega que las partes interesadas presenten comentarios a más tardar el 28 de octubre del 2018.

La audiencia se llevará a cabo en conformidad con la 20.1.1 NMAC, Procedimientos de Reglamentación – Junta de Mejora Ambiental; la Ley de Mejora Ambiental Sección 74-1-9 NMSA 1978; la Ley de Control de Calidad del Aire, Sección 74-2-6 NMSA 1978; y otros procedimientos pertinentes.

La Junta puede tomar una decisión sobre la propuesta derogación normativa al terminar la audiencia o puede convocar a una reunión después de la audiencia para considerar una acción sobre la propuesta.

A todas las personas interesadas se les dará una oportunidad razonable en la audiencia para presentar pruebas pertinentes, información, puntos de vista y argumentos en forma oral o por escrito, presentar documentos u objetos de pruebas e interrogar a testigos. Las personas que deseen dar testimonio de carácter técnico deben presentar por escrito a la Junta un Aviso de Intención de hacerlo. De conformidad con la 20.1.1.302 NMAC, el Testimonio de carácter Técnico, el Aviso de Intención debe:

- (1) identificar a la persona por quien el testigo/os dará/n testimonio.
- (2) identificar a cada testigo técnico que la persona presentará e indicar las cualificaciones del testigo incluyendo una descripción de su historial académico y laboral;
- (3) incluir una copia de las declaraciones directas en forma narrativa de cada testigo técnico;
- (4) incluir el texto de cualquier modificación recomendada al cambio normativo propuesto; y
- (5) hacer una lista y adjuntar todas las pruebas que la persona anticipa ofrecer en la audiencia, incluso cualquier declaración propuesta de las razones para adoptar las normas.

Los Avisos de Intención para presentar testimonio de carácter técnico en la audiencia deben recibirse en la oficina de la Junta a más tardar el 9 de noviembre de 2018 hasta las 5:00 pm, y deben hacer referencia al número de expediente EIB 18-07 (R) y la fecha de la audiencia. Los Avisos de Intención para presentar testimonio de carácter técnico deben presentarse a:

Pam Castañeda, Administrator for Boards & Commissions  
Environmental Improvement Board  
c/o New Mexico Environment Department  
P. O. Box 5469  
Santa Fe, NM 87502  
Tel.: (505) 827-2425, Fax (505) 827-2836  
e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us)

Cualquier miembro del público puede ofrecer declaraciones en la audiencia. No es necesario avisar previamente para ofrecer declaraciones que no sean de carácter técnico en la audiencia. También, cualquier persona puede ofrecer pruebas con relación a su testimonio, siempre y cuando dichas pruebas no sean exageradamente repetitivas del testimonio.

Un miembro del público que en lugar de hacer declaraciones orales en la audiencia desee presentar una declaración por escrito para que conste en el acta deberá registrar la declaración por escrito antes de la audiencia o la puede entregar en la audiencia.

Las personas con discapacidades y que necesiten ayuda para participar en este proceso deben comunicarse con Pam Castañeda, Administrator for Boards & Commissions, por lo menos diez días antes de la reunión o tan pronto como sea posible a la dirección indicada arriba o al correo electrónico: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). Los usuarios de TDY pueden acceder a su número por la Red de Retransmisión de Nuevo México llamando al 1-800-659-8331.

El Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en Inglés) no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o sexo en la administración de sus programas o actividades, según lo exigido por las leyes y reglamentos correspondientes. NMED es responsable de la coordinación de los esfuerzos de cumplimiento y la recepción de consultas relativas a los requisitos de no discriminación implementados por 40 C.F.R., partes 5 y 7, incluido el Título VI de la Ley de Derechos Civiles de 1964, según enmendada; Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975, Título IX de las Enmiendas de Educación de 1972 y la Sección 13 de las Enmiendas a la Ley Federal de Control de Contaminación del Agua de 1972. Si usted tiene preguntas sobre este aviso o sobre cualquier programa, política o procedimiento de no discriminación de NMED, usted puede comunicarse con la Coordinadora de No Discriminación:

Kristine Pintado, Non-Discrimination Coordinator  
New Mexico Environment Department  
1190 St. Francis Dr., Suite N4050  
P.O. Box 5469  
Santa Fe, NM 87502  
(505) 827-2855  
[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us)

Si usted cree que ha sido discriminado/a con relación a un programa o actividad de NMED, usted se puede comunicar con la coordinadora antidiscriminación mencionada arriba o visitar nuestro sitio electrónico:

<https://www.env.nm.gov/non-employee-discrimination-complaint-page/>  
para aprender más sobre cómo y dónde presentar una queja de discriminación.

# AFFIDAVIT OF PUBLICATION

## STATE OF NEW MEXICO

County of Bernalillo SS

JUNTADEMEJORAAM  
BIENTALDENUVOME  
XICOAVISODEAUDIEN  
CIADEREGLAMENTAC  
IONLAJUNTADEMEJO  
RAAMBIENTALDENU  
VOMEXICOJUNTACEL  
EBRARAUNAAUDIENC  
IAPU

Bernadette Gonzales, the undersigned, on oath states that she is an authorized Representative of The Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

08/26/2018

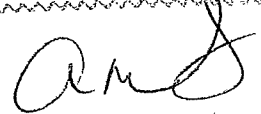
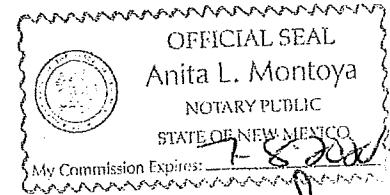


Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this  
26 day of August of 2018

PRICE \$390.46

Statement to come at the end of month.

ACCOUNT NUMBER 1007594



### NOTICE OF RULEMAKING HEARING

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, *Lime Manufacturing Plants - Particulate Matter*.

The proponent of this regulatory amendment is the New Mexico Environment Department (NMED).

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC. The purpose of the proposed repeal of 20.2.20 NMAC is to remove outdated requirements. This rule was identified in the November 2012 *Improving Environmental Permitting Report* for potential revision or repeal. 20.2.20 NMAC establishes particulate matter emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the NAAQS for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal is available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/> or by contacting Neal Butt at 505-476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). The proposed regulation repeal may also be examined during office hours at the Air Quality Bureau office, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

The hearing will be conducted in accordance with: 20.1.1 NMAC, *Rulemaking Procedures – Environmental Improvement Board*; the *Environmental Improvement Act*, Section 74-1-9 NMSA 1978; the *Air Quality Control Act*, Section 74-2-6 NMSA 1978; and other applicable procedures.

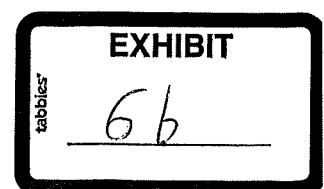
The Board may make a decision on the proposed regulation repeal at the conclusion of the hearing, or the Board may convene a meeting after the hearing to consider action on the proposal.

All interested persons will be given a reasonable opportunity at the hearing to submit relevant evidence, data, views and arguments, orally or in writing, to introduce exhibits, and to examine witnesses. Persons wishing to present technical testimony must file with the Board a written *Notice of Intent* to do so. Pursuant to 20.1.1.302 NMAC, *Technical Testimony*, The *Notice of Intent* shall:

- (1) identify the person for whom the witness(es) will testify;
- (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background;
- (3) include a copy of the direct testimony of each technical witness in narrative form;
- (4) include the text of any recommended modifications to the proposed regulatory change; and
- (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules.

*Notices of Intent* to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. *Notices of Intent* to present technical testimony should be submitted to:

Pam Castañeda, Administrator for Boards & Commissions



Environmental Improvement Board  
c/o New Mexico Environment Department  
P. O. Box 5469  
Santa Fe, NM 87502  
Phone: (505) 827-2425, Fax (505) 827-2836  
e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us)

Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony.

A member of the general public who wishes to submit a written statement for the record, in lieu of providing oral testimony at the hearing, shall file the written statement prior to the hearing, or submit it at the hearing.

Persons having a disability and needing help to participate in this hearing process should contact Pam Castañeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact:

Kristine Pintado, Non-Discrimination Coordinator  
New Mexico Environment Department  
1190 St. Francis Dr., Suite N4050  
P.O. Box 5469  
Santa Fe, NM 87502  
(505) 827-2855  
[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us)

If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our website at to <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.



## AVISO DE AUDIENCIA DE REGLAMENTACIÓN

La Junta de Mejora Ambiental de Nuevo México (Junta) celebrará una audiencia pública el 30 de noviembre de 2018, a partir de las 9:30 a.m., en el Edificio del Capitolio del Estado, en la sala 307, 490 Old Santa Fe Trail, Santa Fe, Nuevo México. El propósito de la audiencia es considerar el asunto de EIB 18-07 (R), propuestas revisiones al Plan de Implementación del Estado de Nuevo México (SIP, por sus siglas en inglés) con relación a las Reglamentación de Control de Calidad del Aire establecidas en el Código Administrativo de Nuevo México (NMAC, por sus siglas en inglés) en 20.2.20 NMAC, *Plantas de Fabricación de Cal – Material Particulado*.

El Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en inglés) es el que propone estas enmiendas normativas.

El propósito de la audiencia pública es considerar y tomar una posible acción sobre una petición de NMED para derogar la 20.2.20 NMAC. El propósito de la propuesta derogación de la 20.2.20 NMAC es eliminar requisitos obsoletos. Esta norma se identificó en el Informe de Permiso de Mejora Ambiental de noviembre de 2012 para posible revisión o derogación. La 20.2.20 NMAC establece límites de emisiones de material particulado para plantas de fabricación de cal e hidratantes de cal. La Oficina de Calidad del Aire ha llevado a cabo análisis rigurosos de esta norma y normas federales similares y ha llegado a la conclusión de que la norma se puede derogar sin relajar los controles de emisiones o un efecto adverso en la calidad del aire y no es necesaria para mantener los NAAQS para PM. Si la Junta la adopta, la derogación de la 20.2.20 NMAC se presentaría a EPA para considerar su eliminación del SIP de Nuevo México.

El texto completo de la propuesta derogación de esta norma de NMED está disponible en el sitio web de la Oficina de Calidad del Aire: <https://www.env.nm.gov/air-quality/proposed-regs/> o comunicándose con Neal Butt llamando al 505-476-4317, o por correo electrónico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us). La propuesta derogación también se puede examinar durante horas hábiles en la Oficina de Calidad del Aire, 525 Camino de los Marquez, Suite 1, Santa Fe, Nuevo México, 87505. Por favor comuníquese con Neal Butt llamado al (505) 476-4317 o por el correo electrónico [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) si tiene preguntas o comentarios con relación a la propuesta derogación. Se ruega que las partes interesadas presenten comentarios a más tardar el 28 de octubre del 2018.

La audiencia se llevará a cabo en conformidad con la 20.1.1 NMAC, *Procedimientos de Reglamentación – Junta de Mejora Ambiental*; la *Ley de Mejora Ambiental* Sección 74-1-9 NMSA 1978; la *Ley de Control de Calidad del Aire*, Sección 74-2-6 NMSA 1978; y otros procedimientos pertinentes.

La Junta puede tomar una decisión sobre la propuesta derogación normativa al terminar la audiencia o puede convocar a una reunión después de la audiencia para considerar una acción sobre la propuesta.

A todas las personas interesadas se les dará una oportunidad razonable en la audiencia para presentar pruebas pertinentes, información, puntos de vista y argumentos en forma oral o por escrito, presentar documentos u objetos de pruebas e interrogar a testigos. Las personas que deseen dar testimonio de carácter técnico deben presentar por escrito a la Junta un Aviso de Intención de hacerlo. De conformidad con la 20.1.1.302 NMAC, el *Testimonio de carácter Técnico*, el *Aviso de Intención* debe:

- (1) identificar a la persona por quien el testigo/os dará/n testimonio.
- (2) identificar a cada testigo técnico que la persona presentará e indicar las cualificaciones del testigo incluyendo una descripción de su historial académico y laboral;
- (3) incluir una copia de las declaraciones directas en forma narrativa de cada testigo técnico;
- (4) incluir el texto de cualquier modificación recomendada al cambio normativo propuesto; y
- (5) hacer una lista y adjuntar todas las pruebas que la persona anticipa ofrecer en la audiencia, incluso cualquier declaración propuesta de las razones para adoptar las normas.

Los Avisos de Intención para presentar testimonio de carácter técnico en la audiencia deben recibirse en la oficina de la Junta a más tardar el 9 de noviembre de 2018 hasta las 5:00 pm, y deben hacer referencia al número de

expediente EIB 18-07 (R) y la fecha de la audiencia. Los Avisos de Intención para presentar testimonio de carácter técnico deben presentarse a:

Pam Castañeda, Administrator for Boards & Commissions  
Environmental Improvement Board  
c/o New Mexico Environment Department  
P. O. Box 5469  
Santa Fe, NM 87502  
Tel.: (505) 827-2425, Fax (505) 827-2836 e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us)

Cualquier miembro del público puede ofrecer declaraciones en la audiencia. No es necesario avisar previamente para ofrecer declaraciones que no sean de carácter técnico en la audiencia. También, cualquier persona puede ofrecer pruebas con relación a su testimonio, siempre y cuando dichas pruebas no sean exageradamente repetitivas del testimonio.

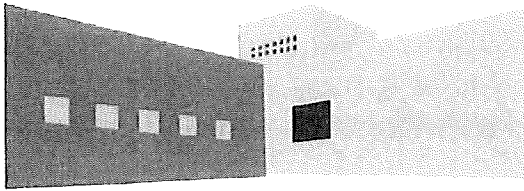
Un miembro del público que en lugar de hacer declaraciones orales en la audiencia desee presentar una declaración por escrito para que conste en el acta deberá registrar la declaración por escrito antes de la audiencia o la puede entregar en la audiencia.

Las personas con discapacidades y que necesiten ayuda para participar en este proceso deben comunicarse con Pam Castañeda, Administrator for Boards & Commissions, por lo menos diez días antes de la reunión o tan pronto como sea posible a la dirección indicada arriba o al correo electrónico: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). Los usuarios de TDY pueden acceder a su número por la Red de Retransmisión de Nuevo México llamando al 1-800-659-8331.

El Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en inglés) no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o sexo en la administración de sus programas o actividades, según lo exigido por las leyes y reglamentos correspondientes. NMED es responsable de la coordinación de los esfuerzos de cumplimiento y la recepción de consultas relativas a los requisitos de no discriminación implementados por 40 C.F.R., partes 5 y 7, incluido el Título VI de la Ley de Derechos Civiles de 1964, según enmendada; Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975, Título IX de las Enmiendas de Educación de 1972 y la Sección 13 de las Enmiendas a la Ley Federal de Control de Contaminación del Agua de 1972. Si usted tiene preguntas sobre este aviso o sobre cualquier programa, política o procedimiento de no discriminación de NMED, usted puede comunicarse con la Coordinadora de No Discriminación:

Kristine Pintado, Non-Discrimination Coordinator  
New Mexico Environment Department  
1190 St. Francis Dr., Suite N4050  
P.O. Box 5469  
Santa Fe, NM 87502  
(505) 827-2855  
[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us)

Si usted cree que ha sido discriminado/a con relación a un programa o actividad de NMED, usted se puede comunicar con la coordinadora antidiscriminación mencionada arriba o visitar nuestro sitio electrónico: <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> para aprender más sobre cómo y dónde presentar una queja de discriminación.



NM Commission of Public Records  
1205 Camino Carlos Rey  
Santa Fe, NM 87507 US  
(505) 476-7902

## Invoice

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AUG 30 2018

Air Quality Bureau

**BILL TO**

NM Environment Department  
Environmental Protection  
525 Camino de los Marquez  
Santa Fe, NM 87505

INVOICE #	DATE	TOTAL DUE	DUE DATE	ENCLOSED
3443	08/28/2018	\$222.00	08/28/2018	

VOLUME	ISSUE	P.O. NUMBER
XXIX	16	66700-0000031516

DATE	ACTIVITY	QTY	RATE	AMOUNT
08/28/2018	NM Register - 431902 Notice of Rulemaking Hearing - English on 11/30/2018.	34	3.00	102.00
08/28/2018	NM Register - 431902 Aviso de Audiencia de Reglamentacion - Spanish on 11/30/2018.	40	3.00	120.00

Thank you for your business!

BALANCE DUE

**\$222.00**

NEW MEXICO  
Commission of Public Records  
at the State Records Center and Archives  
Your Access to Public Information

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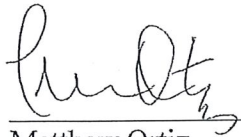
AUG 8 0 2018

Air Quality Bureau

**Affidavit of Publication in New Mexico Register**

I, Matthew Ortiz, certify that the agency noted on Invoice # 3443 has published legal notice of rulemaking or rules in the NEW MEXICO REGISTER, VOLUME XXIX, that payment has been assessed for said legal notice of rulemaking or rules, which appears on the publication date and in the issue number noted on Invoice # 3443, and that Invoice # 3443 has been sent electronically to the person(s) listed on the *Billing Information Sheet* provided by the agency.

Affiant:

  
Matthew Ortiz

Subscribed, sworn and acknowledged before me this 28<sup>th</sup> day of August, 2018.

Notary Public:

My Commission Expires: 2/19/2020



1205 Camino Carlos Rey | Santa Fe, NM 87507 | [nmcpr.state.nm.us](http://nmcpr.state.nm.us)

Robert J. Tórréz  
Historian/Chair

Hon. Hector Balderas  
Attorney General

Hon. Wayne Johnson  
State Auditor



Hon. Maggie Toulouse Oliver  
Secretary of State

Veronica Gonzales  
Department of Cultural Affairs

Ned Fuller  
General Services Department

Lynne S. Rhys  
State Law Librarian

# NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULEMAKING HEARING

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## Details for NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULEMAKING HEARING

3 hrs ago

### NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULEMAKING HEARING

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**EXHIBIT**

6c



make a decision on the proposed regulation repeal at the conclusion of the hearing, or the Board may convene a meeting after the hearing to consider action on the proposal. All interested persons will be given a reasonable opportunity at the hearing to submit relevant evidence, data, views and arguments, orally or in writing, to introduce exhibits, and to examine witnesses. Persons wishing to present technical testimony must file with the Board a written Notice of Intent to do so. Pursuant to 20.1.1.302 NMAC, Technical Testimony, The Notice of Intent shall: (1) identify the person for whom the witness(es) will testify; (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background; (3) include a copy of the direct testimony of each technical witness in narrative form; (4) include the text of any recommended modifications to the proposed regulatory change; and (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules. Notices of Intent to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. Notices of Intent to present technical testimony should be submitted to: Pam Castañeda, Administrator for Boards & Commissions Environmental Improvement Board c/o New Mexico Environment Department P. O. Box 5469 Santa Fe, NM 87502 Phone: (505) 827-2425, Fax (505) 827-2836 e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us) Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony. A member of the general public who wishes to submit a written statement for the record, in lieu of providing oral testimony at the hearing, shall file the written statement prior to the hearing, or submit it at the hearing. Persons having a disability and needing help to participate in this hearing process should contact Pam Castañeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331. NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non- Discrimination Coordinator New Mexico Environment Department 1190 St. Francis Dr., Suite N4050 P.O. Box 5469 Santa Fe, NM 87502 (505) 827-2855

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AFFIDAVIT of PUBLICATION

Clara García, being first duly sworn, deposes and says that she is Editor/Publisher of the **Valencia County New-Bulletin**, printed and published each week in the County of Valencia, State of New Mexico, and of general circulation in the city of Belen, County of Valencia, State of New Mexico and elsewhere, and the hereto attached

STATE OF NEW MEXICO )

:SS

COUNTY OF VALENCIA )

was printed and published correctly in the regular and entire issue of said **VALENCIA COUNTY NEWS-BULLETIN** for 1 issue(s), that the first was made on the 23 day of August 2018, and subsequent publications being: \_\_\_\_\_

Request of **VALENCIA COUNTY NEWS-BULLETIN**

By:

Affiant

[Signature]

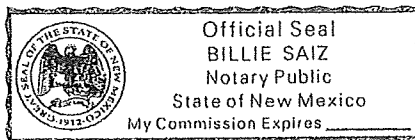
Subscribed and sworn to me this 23 day of August, 2018 in the County of VALENCIA, State of New Mexico.

[Signature]  
Notary Public

Notary Public in and for the County of Valencia, State of New Mexico

My Commission Expires: 9.17.22

Seal



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AUG 27 2018

Air Quality Bureau

Account Number: 1089644 Ad Number: 1416815

Price: \$314.76 (Statement to come at end of month)

NEW MEXICO  
ENVIRONMENTAL  
IMPROVEMENT BOARD  
NOTICE OF  
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- (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background;
- (3) include a copy of the direct testimony of each technical witness in narrative form;
- (4) include the text of any recommended modifications to the proposed regulatory change; and
- (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules.

*Notices of Intent* to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. *Notices of Intent* to present technical testimony should be submitted to:

Pam Castañeda, Administrator  
for Boards & Commissions  
Environmental Improvement  
Board  
c/o New Mexico Environment  
Department  
P.O. Box 5469  
Santa Fe, NM 87502  
Phone: (505) 827-2425, Fax  
(505) 827-2836  
e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us)

Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony.

A member of the general public who wishes to submit a written statement for the record, in lieu of providing oral testimony at the hearing, shall file the written statement prior to the hearing, or submit it at the hearing.

Persons having a disability and needing help to participate in this hearing process should contact Pam Castañeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact:

Kristine Pintado, Non-Discrimination Coordinator  
New Mexico Environment  
Department  
1190 St. Francis Dr.,  
Suite N4050  
P.O. Box 5469  
Santa Fe, NM 87502  
(505) 827-2855  
[nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us)

If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

Published in the Valencia County News-Bulletin on August 23, 2018.

**From:** [New Mexico Environment Department](#)  
**To:** [Butt, Neal, NMENV](#)  
**Subject:** NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING  
**Date:** Thursday, August 23, 2018 9:45:24 AM

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## Air Quality Bureau Regulatory and SIP Bulletin

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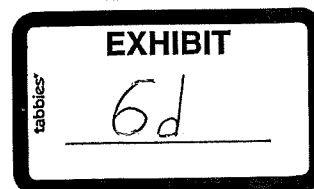
### NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, *Lime Manufacturing Plants - Particulate Matter*.

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC to remove outdated requirements. 20.2.20 NMAC establishes particulate matter (PM) emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the National Ambient Air Quality Standards (NAAQS) for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal and public notices for the upcoming hearing are available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/>. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

Persons wishing to present technical testimony must file with the Board a written





Notice of Intent not later than 5:00 pm on November 9, 2018.

---

For additional information concerning this bulletin, please contact Neal Butt, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505, (505) 476-4317, [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

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NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975; Title IX of the Education Amendments of 1972; and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, send an email to: [nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us).

If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above, or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

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NMED Air Quality Bureau

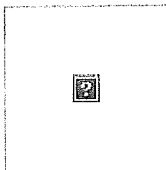
525 Camino de los Marquez, Suite 1

Santa Fe, New Mexico, 87505-1816

(505) 476-4300

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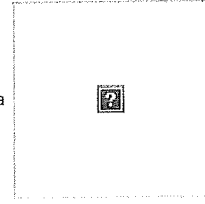
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**From:** Canepa, Laurie  
**To:** Butt, Neal, NMENV  
**Subject:** RE: Notice of Proposed Rulemaking - Proposal to repeal 20.2.20 NMAC, Lime Manufacturing - Particulate Matter  
**Date:** Friday, August 24, 2018 9:51:52 AM

---

Thanks. Have a nice weekend.

**From:** Butt, Neal, NMENV <Neal.Butt@state.nm.us>  
**Sent:** Thursday, August 23, 2018 3:34 PM  
**To:** lcsmail <lcsmail@nmlegis.gov>  
**Cc:** Knight, Andrew, NMENV <Andrew.Knight@state.nm.us>; Singleton, Kerwin, NMENV <Kerwin.Singleton@state.nm.us>; Hollenberg, Cindy, NMENV <Cindy.Hollenberg@state.nm.us>  
**Subject:** Notice of Proposed Rulemaking - Proposal to repeal 20.2.20 NMAC, Lime Manufacturing - Particulate Matter

Good afternoon:

Please find the public notice of rulemaking hearing attached to this e-mail. This notice has been scheduled for publication in the NM Register, the Albuquerque Journal and the Valencia County News Bulletin.

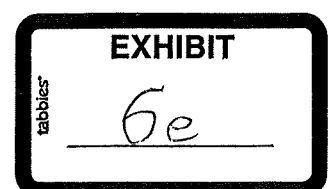
Please let me know if you have any questions regarding this matter.

Thank you,

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office (505) 269-0767 [Monday & Friday]





NM

## Rule Hearing Search

lime

Hearing Date:

All

Comments Deadline Date:

All

Agency:

Search

[Return to Search Results](#)**Proposed Rule Name:**

Proposed Repeal of 20.2.20 NMAC (Lime Manufacturing Plants-Particulate Matter)

**Agency:**

Environment Department

**Purpose:**

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC. The purpose of the proposed repeal of 20.2.20 NMAC is to remove outdated requirements. This rule was identified in the November 2012 Improving Environmental Permitting Report for potential revision or repeal. 20.2.20 NMAC establishes particulate matter emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the NAAQS for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

**Summary:**

The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, Lime Manufacturing Plants - Particulate Matter.

**Administrative Codes:**

20.2.20 NMAC - Lime Manufacturing Plants - Particulate Matter

**Rule Complete Copy :**

The full text of NMED's proposed regulation repeal is available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/> (<https://www.env.nm.gov/air-quality/proposed-regs/>) or by contacting Neal Butt at 505-476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) (<mailto:neal.butt@state.nm.us>). The proposed regulation repeal may also be examined during office hours at the Air Quality Bureau office, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) (<mailto:neal.butt@state.nm.us>) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

**Corrections:**

Not available

**Rule Explanatory Statement:**

[Click Here to access the Rule Explanatory Statement](https://www.env.nm.gov/air-quality/proposed-regs/) (<https://www.env.nm.gov/air-quality/proposed-regs/>)

**Related New Mexico Register Publications:**

Not available

For any additional information or questions concerning this rule making or posting please contact:

Neal Butt

[neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

(505) 476-4317

Last Updated Date

8/24/2018 8:50 AM

**How to submit Comments:**

Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) (<mailto:neal.butt@state.nm.us>) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

**When are comments due:**

The deadline for submitting comments has changed. The new deadline is shown below  
10/28/2018 5:00 PM

**Hearing Date:**

The public rule hearing date/time have changed. The new date/time are shown below  
11/30/2018 9:30 AM

**Public Hearing Location:**

Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico 11/30/2018 (9:30 AM -12:00 PM )

**How to participate:**

All interested persons will be given a reasonable opportunity at the hearing to submit relevant evidence, data, views and arguments, orally or in writing, to introduce exhibits, and to examine witnesses. Persons wishing to present technical testimony must file with the Board a written Notice of Intent to do so. Pursuant to 20.1.1.302 NMAC, Technical Testimony, The Notice of Intent shall:

- (1) identify the person for whom the witness(es) will testify;
- (2) identify each technical witness the person intends to present and state the qualifications of that witness, including a description of their educational and work background;
- (3) include a copy of the direct testimony of each technical witness in narrative form;
- (4) include the text of any recommended modifications to the proposed regulatory change; and
- (5) list and attach all exhibits anticipated to be offered by that person at the hearing, including any proposed statement of reasons for adoption of rules. Notices of Intent to present technical testimony at the hearing must be received in the Office of the Board not later than 5:00 pm on November 9, 2018, and should reference the docket number, EIB 18-07 (R), and the date of the hearing. Notices of Intent to present technical testimony should be submitted to:

Pam Castañeda, Administrator for Boards & Commissions  
Environmental Improvement Board

c/o New Mexico Environment Department

P. O. Box 5469

Santa Fe, NM 87502

Phone: (505) 827-2425, Fax (505) 827-2836

e-mail: [pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us) (<mailto:pam.castaneda@state.nm.us>)

Any member of the general public may testify at the hearing. No prior notification is required to present non-technical testimony at the hearing. Any such member may also offer non-technical exhibits in connection with their testimony, so long as the exhibit is not unduly repetitious of the testimony. A member of the general public who wishes to submit a written statement for the record, in lieu of providing oral testimony at the hearing, shall file the written statement prior to the hearing or submit it at the hearing.

Persons having a disability and needing help to participate in the

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process should contact Pam Castañeda, Administrator for Boards & Commissions, at least ten days prior to the meeting or as soon as possible at the above address or e-mail  
[pam.castaneda@state.nm.us](mailto:pam.castaneda@state.nm.us) (<mailto:pam.castaneda@state.nm.us>). TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.

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<a href="#">View Document</a> ( <a href="https://statenm.my.salesforce.com/sfc/p/4100000137C2/a/41000000DqHG/NxvleAq5FCGI5nHGSGrhLnW_EDhSIFz6b5LKw_urykQ">https://statenm.my.salesforce.com/sfc/p/4100000137C2/a/41000000DqHG/NxvleAq5FCGI5nHGSGrhLnW_EDhSIFz6b5LKw_urykQ</a> )	AQB_Updated_Spanish Draft Final EIB Hearing Notice 20_2_20_NMAC 7-27-18	PDF	Notice for Rule Hear to Discus Proposed Repeal of 20.2.20 NMAC (Li Manufact Plants- Particulat Matter) - Spanish version

SUNSHINE

NM

**From:** Butt, Neal, NMENV  
**To:** "dmartinez@puebloofacoma.org"; "Jacob\_Pecos@pueblodecochiti.org"; "boyd.nystedt@enipc.org"; "poj17501@isletapueblo.com"; "Tammy.Belone@jemezpuablo.org"; "karena\_cstll@yahoo.com"; "giojola@lagunapueblo-nsn.gov"; "Thora Padilla"; "SRYdeen@nambepueblo.org"; "airquality@navajo-nsn.gov"; "naomi.archuleta@ohkay.org"; "Environment@picurispueblo.org"; "ADuran@Pojoaque.org"; "pstout@sfpueblo.com"; "RMartinez@SanIPueblo.org"; "smountainflower@sandiapueblo.nsn.us"; "Maxine.Paul@santaana-nsn.gov"; "DinoC@santaciarapueblo.org"; "K Lovato@kewa-nsn.us"; "dpowers@southernute-nsn.gov"; "Caticity@taospueblo.com"; "rswazohinds@puebloofesuque.org"; "GKaufman@puebloofesuque.org"; "tohajiilee@navajochapters.org"; "JArchuleta@utemountain.org"; "ECruz@YDSP-NSN.gov"; "danyaibe@ziapueblo.org"; "Tammy.Parker@ashiwi.org"  
**Cc:** Knight, Andrew, NMENV; Singleton, Kerwin, NMENV; Hollenberg, Cindy, NMENV  
**Subject:** FW: NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING  
**Date:** Thursday, August 23, 2018 3:43:00 PM

---

If you have questions regarding this notice, please contact

**Neal T. Butt**

Environmental Analyst

NMED - Air Quality Bureau

Santa Fe Office

(505) 476-4317 [Tuesday-Thursday]

(505) 476-4375 (FAX)

525 Camino de los Marquez, Suite 1B

Santa Fe, NM 87505-1816

**From:** New Mexico Environment Department <nmed@public.govdelivery.com>  
**Sent:** Thursday, August 23, 2018 9:45 AM  
**To:** Butt, Neal, NMENV <Neal.Butt@state.nm.us>  
**Subject:** NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING

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## Air Quality Bureau

### Regulatory and SIP Bulletin

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#### NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, *Lime Manufacturing Plants - Particulate Matter*.

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC to remove outdated requirements. 20.2.20 NMAC establishes particulate matter (PM) emissions limits for lime

**EXHIBIT**

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manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the National Ambient Air Quality Standards (NAAQS) for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal and public notices for the upcoming hearing are available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/>. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

Persons wishing to present technical testimony must file with the Board a written Notice of Intent not later than 5:00 pm on November 9, 2018.

---

For additional information concerning this bulletin, please contact Neal Butt, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505, (505) 476-4317, [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

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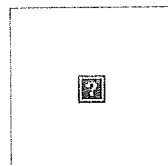
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**From:** Butt, Neal, NMENV  
**To:** "nmgrantcouncil@unm.edu"  
**Cc:** Knight, Andrew, NMENV; Singleton, Kerwin, NMENV; Hollenberg, Cindy, NMENV  
**Subject:** FW: NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING  
**Date:** Thursday, August 23, 2018 3:45:00 PM

---

Dear Sir or Madam,

This notice is being provided to you to pass along to the respective representatives of the Land Grants located within a 4-mile radius of the Lhoist NA lime hydrator facility in Belen, New Mexico. This includes Tome, Belen and Belen - Casa Colorado.

If you have questions regarding this notice, please contact

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau  
Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

**From:** New Mexico Environment Department <nmed@public.govdelivery.com>  
**Sent:** Thursday, August 23, 2018 9:45 AM  
**To:** Butt, Neal, NMENV <Neal.Butt@state.nm.us>  
**Subject:** NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING

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## Air Quality Bureau

### Regulatory and SIP Bulletin

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#### **NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING**

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20 NMAC, *Lime Manufacturing Plants - Particulate Matter*.

The purpose of the public hearing is to consider and take possible action on a

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petition from NMED to repeal 20.2.20 NMAC to remove outdated requirements. 20.2.20 NMAC establishes particulate matter (PM) emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the National Ambient Air Quality Standards (NAAQS) for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal and public notices for the upcoming hearing are available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/>. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

Persons wishing to present technical testimony must file with the Board a written Notice of Intent not later than 5:00 pm on November 9, 2018.

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For additional information concerning this bulletin, please contact Neal Butt, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505, (505) 476-4317, [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

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NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975; Title IX of the Education Amendments of 1972; and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, send an email to: [nd.coordinator@state.nm.us](mailto:nd.coordinator@state.nm.us).

If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above, or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

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NMED Air Quality Bureau

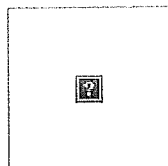
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Santa Fe, New Mexico, 87505-1816

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**From:** Chavez, William, NMENV  
**To:** Rhoderick, John, NMENV; Italiano, Robert, NMENV; Kesler, Michael, NMENV  
**Cc:** Butt, Neal, NMENV  
**Subject:** FW: Notice of Proposed Rulemaking - Proposal to repeal 20.2.20 NMAC, Lime Manufacturing - Particulate Matter  
**Date:** Thursday, August 23, 2018 3:45:22 PM  
**Attachments:** Draft Final EIB Hearing Notice 20.2.20 NMAC 7-27-18.pdf

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District Managers:

Please ensure this notice gets posted your field offices.

Thank you

Bill

**From:** Butt, Neal, NMENV  
**Sent:** Thursday, August 23, 2018 3:42 PM  
**To:** Chavez, William, NMENV <william.chavez@state.nm.us>  
**Cc:** Knight, Andrew, NMENV <Andrew.Knight@state.nm.us>; Singleton, Kerwin, NMENV <Kerwin.Singleton@state.nm.us>; Hollenberg, Cindy, NMENV <Cindy.Hollenberg@state.nm.us>  
**Subject:** Notice of Proposed Rulemaking - Proposal to repeal 20.2.20 NMAC, Lime Manufacturing - Particulate Matter

Bill,

Could you please make this legal notice available in each of your field offices.

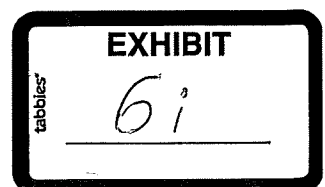
Please let me know if you have any questions regarding this matter.

Thank you,

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office (505) 269-0767 [Monday & Friday]



**From:** Butt, Neal, NMENV  
**To:** "Jim McCaffery"  
**Cc:** Knight, Andrew, NMENV; Singleton, Kerwin, NMENV; Hollenberg, Cindy, NMENV  
**Subject:** FW: NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING  
**Date:** Thursday, August 23, 2018 3:38:00 PM

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Mr. Jim McCaffery,

Because you showed an interest in this rulemaking in the past, I am forwarding this notice to you.

Regards,

**Neal T. Butt**  
Environmental Analyst  
NMED - Air Quality Bureau

Santa Fe Office  
(505) 476-4317 [Tuesday-Thursday]  
(505) 476-4375 (FAX)  
525 Camino de los Marquez, Suite 1B  
Santa Fe, NM 87505-1816

Albuquerque Office (505) 269-0767 [Monday & Friday]

**From:** New Mexico Environment Department <nmed@public.govdelivery.com>  
**Sent:** Thursday, August 23, 2018 9:45 AM  
**To:** Butt, Neal, NMENV <Neal.Butt@state.nm.us>  
**Subject:** NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING

NMED Banner



## Air Quality Bureau

### Regulatory and SIP Bulletin

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#### **NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD NOTICE OF RULE MAKING HEARING**

The New Mexico Environmental Improvement Board ("Board") will hold a public hearing on November 30, 2018, at 9:30 a.m., in Room 307 of the State Capitol Building, 490 Old Santa Fe Trail, Santa Fe, New Mexico. The purpose of the hearing is to consider the matter of EIB 18-07 (R), proposed revisions to the New Mexico State Implementation Plan (SIP) regarding the Air Quality Control Regulation codified in the New Mexico Administrative Code (NMAC) at 20.2.20

**EXHIBIT**

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*NMAC, Lime Manufacturing Plants - Particulate Matter.*

The purpose of the public hearing is to consider and take possible action on a petition from NMED to repeal 20.2.20 NMAC to remove outdated requirements. 20.2.20 NMAC establishes particulate matter (PM) emissions limits for lime manufacturing plants and lime hydrators. The Air Quality Bureau has conducted a thorough analysis of this rule and similar federal rules and has concluded that the rule can be repealed without a relaxation of emissions controls or an adverse effect on air quality, and is not necessary to maintain the National Ambient Air Quality Standards (NAAQS) for PM. If adopted by the Board, the repeal of 20.2.20 NMAC would be submitted to EPA for consideration for removal from New Mexico's SIP.

The full text of NMED's proposed regulation repeal and public notices for the upcoming hearing are available on the Air Quality Bureau's web site at <https://www.env.nm.gov/air-quality/proposed-regs/>. Please contact Neal Butt at (505) 476-4317 or [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us) if you have questions or comments concerning the proposed repeal. Stakeholders are requested to provide comments by October 28, 2018.

Persons wishing to present technical testimony must file with the Board a written Notice of Intent not later than 5:00 pm on November 9, 2018.

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For additional information concerning this bulletin, please contact Neal Butt, 525 Camino de los Marquez, Santa Fe, New Mexico, 87505, (505) 476-4317, [neal.butt@state.nm.us](mailto:neal.butt@state.nm.us)

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If you believe that you have been discriminated against with respect to an NMED program or activity, you may contact the Non-Discrimination Coordinator identified above, or visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

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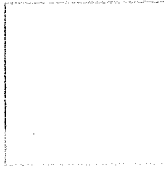
NMED Air Quality Bureau

525 Camino de los Marquez, Suite 1

Santa Fe, New Mexico, 87505-1816

(505) 476-4300

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**State of New Mexico**  
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EXHIBIT

6K





**Air Dispersion Modeling Summary for the Lhoist North America - Belen Chemical Lime Plant Permit No. 1652 M2-R6**

**Report Date:** 3/13/2017. Revised 9/29/17.

**NMED/AQB Modeler:** Sufi Mustafa

**Facility Identification:**

Project: Belen Chemical Lime Plant      Company: Lhoist North America of Arizona  
(formerly known as Chemical Lime Company of Arizona)  
Permit number: 1652 M2-R6      TEMPO ID: 1598

**Location Information:**

The facility is located 1.5 miles north of Madrone, and 1.9 miles east-southeast of Jarales, in Valencia County.

UTM Coordinates: 341,171 m East, 3,830,208 m North, zone 13, Datum: NAD83

Elevation = 4895 feet

Air Quality Control Region (AQCR): 152

Airshed: Mrg

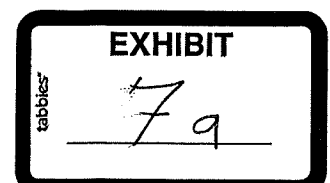
**Project Description:**

**Brief:** Lhoist North America has a New Source Review (NSR) minor source air quality permit for its Belen Chemical Lime Plant (the facility). The facility was constructed in 1995. The facility receives quick lime (CaO) and produces hydrated lime (Ca(OH)<sub>2</sub>). The raw material and the product is kept in silos or storage pigs until ready to be shipped. For the past several years the facility has been mostly idle because of lower demand of lime in the market.

The facility is an emission source for the following pollutants: Particulate Matter 10 micrometers or less in aerodynamic diameter (PM10), and Particulate Matter 2.5 microns or less (PM2.5).

**Table 1: Table of Total Facility Emissions (English units)**

PM2.5 Rate (lbs/hr)	PM10 Rate (lbs/hr)
1.772	3.408



**Table 2: Table of Emissions and Stack Parameters (English units)<sup>1</sup>**

Stack Number	Description	Stack Type	Stack Height (ft)	Stack Diameter (ft)	Exit Velocity (ft/s)	Temperature (°F)	PM2.5 Rate (lbs/hr)	PM10 Rate (lbs/hr)
DC006	Railcar load out	<u>Vertical</u>	41.3	0.5	92.0	68	0.03567	0.0685
DC009	Cyclone Truck Load out	<u>Vertical</u>	36.3	2.5	84.9	150	0.9644	1.854
DC005	Air Separator	<u>Vertical</u>	39.1	1.1	47.0	150	0.1155	0.2221
DC004	Seasoning Chamber (Close to White Hydrated lime Silo)	<u>Vertical</u>	50.6	1.7	85.1	240	0.4032	0.7754
DC007	On Top of White Silo (Hydrate)	<u>Horizontal</u>	98.5	0.6	112.6	150	0.07717	0.1484
DC008	Truck Load Out	<u>Vertical</u>	40.0	0.5	111.7	68	0.03567	0.06860
DC003	On Top of White Silo (Hydrate)	<u>Horizontal</u>	103.5	0.4	119.8	68	0.04249	0.08174
DC002	Quick Lime Surge Bin	<u>Horizontal</u>	47.3	0.4	120.6	68	0.04910	0.09444
DC001	On Top of Quick Lime Black Silo	<u>Horizontal</u>	46.8	1.0	22.7	68	0.04910	0.09444

<sup>1</sup> All emission parameters values copied or converted from initial facility modeling and from the survey conducted by the AQB on June 2<sup>nd</sup> 2016. The survey values for source location, height and emission point orientation vertical or horizontal were used in this analysis.



There are no PointCap sources at this facility.

There are no Area sources at this facility.

There are no Volume sources at this facility.

There are no OpenPit sources at this facility.

There are no AreaCirc sources at this facility.

There are no AreaPoly sources at this facility.

**Modeling Assumptions:**

The facility operates all year long, 8760 hours per year. To confirm the facility emission sources the New Mexico Air Quality Bureau (AQB) conducted a survey of the facility on June 2, 2016. The AQB performed the air dispersion modeling analyses of the facility to confirm the facility compliance with the applicable ambient air quality standards. The survey values for source location, height and emission point orientation (vertical or horizontal) were used in these analyses.

**Conclusion:**

This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards. The standards relevant at this facility are NAAQS for PM10, and PM2.5.

The air quality analysis demonstrates compliance with applicable regulatory requirements.

**Note:** ♪ Complete modeling input and output files can be made available and are located on the server Aurora in the directory AQB/ModelingArchives/1652\_Lhoist Chemical Lime\_Belen Chemical Lime Plant\_After Survey Modeling.

**Number of Model Runs:**

Model(s) Used: AERMOD was used to do the modeling analysis.

AERMOD – Three models were run for the ROI determination and another three for cumulative analyses.

**Description of model input files:**

**Modeling Parameters:**

The AERMOD regulatory default parameters were included in assumptions made by the model. First models were run facility alone to find significant receptors for each applicable averaging period for PM10 and PM2.5. Later models were run for each applicable averaging period with surrounding sources. In the resulting cumulative concentrations background concentrations were added and then compared to the applicable standards.

Building downwash produced by buildings at the facility was considered. The following buildings were included in the modeling.

**Table 3: Table of Buildings**

Building Name	Height (m)	Diagonal Length (m)
Quick lime black silo	13.0	6.7
Storage Containers	2.4	17.5
Office building	4.3	27.6
Storage Pigs	3.7	29.3
Hydrated lime white silo	29.9	6.7

**Complex Terrain Data:**

Flat terrain was used because terrain surrounding the facility is flat and maximum impacts are close to the fence line.

**Receptor Grid:** The following grids were used to determine the maximum concentration for each pollutant.

**Table 4: Table of Receptors**

Grid Type	Description	Shape	Spacing	Radius or Length
Cartesian	Intermediate	Square	250 meters	4 kilometers
Cartesian	Fine	Square	100 meters	2 kilometers
Cartesian	Very fine	Square	50 meters	1 kilometers
Fence line	Very fine	Fence line	25 meters	Fence line

Receptors outside of the radii of impact were discarded for the surrounding source runs.

**Meteorological Data:** AERMOD - One (1) year, Bernalillo 2013

**Adjacent Sources:**

[35] 34 surrounding sources from 25 facilities were included in the cumulative model runs. Vulcan Material's Southern Plant NOI 2627 was removed from the surrounding sources list because it is no longer located close to the subject facility.

All permitted particulate sources up to 25 km radius around the subject facility were included in the cumulative model run. Beyond 25 km up to 50 km sources with particulate emissions above 1000 lbs./hr. were included.

**Background Concentrations:**

24-hr background data was collected from PM10 monitoring station in Bernalillo. It is a station that is in the same region but away from Albuquerque.

There is no PM<sub>2.5</sub> monitor close to the facility. Stations are located in Albuquerque and in Las Cruces. Since they are located in cities with many anthropogenic sources they measure more than the background concentrations.

Las Cruces is a smaller city compared to Albuquerque. Las Cruces monitor data was used for the PM<sub>2.5</sub> 24-hr and annual average background.

#### **Modeling Procedures:**

No changes from standard modeling procedures were made.

#### **PSD Increment Information:**

The facility is a minor source (for PSD purposes) located in AQCR 152. The minor source baseline dates here are 3/26/1997 for PM<sub>10</sub>, and 2/11/2013 for PM<sub>2.5</sub>. The facility is a baseline source for both PM<sub>10</sub> and PM<sub>2.5</sub> increments.

The facility is 81.0 km from the Class I area Bosque del Apache. Class I area impacts are negligible for minor sources over 50 km from a Class I area. Modeling is not required.

#### **Results Discussion:**

##### **PM<sub>10</sub> Analysis:**

The maximum total H1H 24-hour PM<sub>10</sub> concentration was [~~47.362~~] 50.55 µg/m<sup>3</sup>, which occurred 176 m west-northwest from the center of the facility. This was [~~31.6~~] 33.7% of the NAAQS. The maximum source alone 24-hour PM<sub>10</sub> concentration was [~~20.580~~] 26.77 µg/m<sup>3</sup>, which occurred 92 m west-northwest from the center of the facility. This was [~~13.7~~] 17.8% of the NAAQS.

##### **PM<sub>2.5</sub> Analysis:**

The maximum H8H total 24-hour PM<sub>2.5</sub> concentration was [~~11.422~~] 11.5 µg/m<sup>3</sup>, which occurred 105 m south-southwest from the center of the facility. This was [~~32.6~~] 32.8% of the NAAQS. The maximum H8H source alone 24-hour PM<sub>2.5</sub> concentration was [~~8.376~~] 8.4 µg/m<sup>3</sup>, which occurred 63 m south-southwest from the center of the facility. This was [~~23.9~~] 24% of the NAAQS.

The maximum total annual PM<sub>2.5</sub> concentration was [~~4.594~~] 4.7 µg/m<sup>3</sup>, which occurred 94 m north-northeast from the center of the facility. This was [~~38.3~~] 39.2% of the NAAQS. The maximum source alone annual PM<sub>2.5</sub> concentration was [~~2.388~~] 2.5 µg/m<sup>3</sup>, which occurred 94 m north-northeast from the center of the facility. This was [~~19.9~~] 20.8% of the NAAQS.



**Table 5: Table of Ambient Impact from Emissions**

Pollutant	Period	Facility Concentration ( $\mu\text{g}/\text{m}^3$ )	Cumulative Concentration ( $\mu\text{g}/\text{m}^3$ )	Background Concentration	Cumulative plus background Concentration	Standard	Value of Standard	Units of Standard, Background, and Total	Percent of Standard
PM10	24-hour	<del>[20.6]</del> <u>26.8</u>	<del>[47.4]</del> <u>50.6</u>	21.0	<del>[68.4]</del> <u>71.6</u>	NAAQS	150	$\mu\text{g}/\text{m}^3$	<del>[45.6]</del> <u>47.7</u>
PM2.5	24-hour	8.4	<del>[11.4]</del> <u>11.5</u>	12.8	24.3	NAAQS	35	$\mu\text{g}/\text{m}^3$	<del>[69.1]</del> <u>69.4</u>
PM2.5	annual	<del>[2.4]</del> <u>2.5</u>	<del>[4.6]</del> <u>4.7</u>	5.6	<del>[10.2]</del> <u>10.3</u>	NAAQS	12	$\mu\text{g}/\text{m}^3$	<del>[85.2]</del> <u>85.8</u>

**Table 6: Table of Location of Maximum Concentrations**

Pollutant	Period	UTM East (m)	UTM North (m)	Elevation (ft)	Distance (m)	ROI (m)
PM10	24-hour	341,000.0	3,830,250.0	5052	176	319
PM10	annual	341,216.0	3,830,290.0	5052	94	342
PM2.5	24-hour	341,135.0	3,830,109.0	5052	105	554
PM2.5	annual	341,216.0	3,830,290.0	5052	94	460







Google Earth

Imagery Date: 4/25/2017 13 S 341337.71 m E 3830254.78 m N elev. 4905 ft eye alt 16296



**Air Quality Bureau's Responses to Comments Received on 8/8/17 from EPA Regarding Modeling Demonstration for Lhoist's Belen Lime Plant in Furtherance of the 110(l) Demonstration Required for Repeal of 20.2.20 NMAC, Lime Manufacturing Plants – Particulate Matter.**

1. There appear to be some differences between the parameters used for the modeling demonstration submitted to EPA in 2015 (conducted by Trinity Consultants in 2000), versus the modeling demonstration submitted on 3/21/17 (conducted by AQB in 2016-2017). Specifically: a). Stack No. DC-010 is no longer included; and b). Stack No. DC-007 now modeled as a vertical stack instead of horizontal.

AQB Response:

a). Baghouse DC-010 (Unit # 610) / Stack 10 was not in the original design submitted for NSR Permit 1652, issued 11/8/1995 (see attached summary of permit history). The plan to add a tenth baghouse and exhaust stack was detailed in a construction permit application submitted to the AQB in 2000 (NSR 1652-M2, issued 10/2/00), but they were never built. This was confirmed by AQB Inspector George Llewellyn during an inspection conducted on 9/1/04. Dr. Thanukos of Applied Environmental Consultants, Inc. (consultant to Lhoist), confirmed in a 10/06/08 email to Lisa Killion (AQB) that Dust Collector DC-010 / Unit #610 and associated Fan FN-010 / Unit #611 were never constructed. Dr. Thanukos attested that "the equipment that was not constructed does not affect emissions." He sought to confirm that correction of the air quality permit to reflect the actual processes (i.e., removing a control device that had not and would not be built) could be accomplished via an Administrative Permit Revision per 20.2. 72.219.A(1)(d) NMAC rather than a Technical Permit Revision under 20.2.72.219.B NMAC. In addition, Dr. Thanukos stated that although the equipment that was not constructed was to have processed a material classified as a toxic air pollutant, deletion of the equipment would not result in a new emission unit or an increase in emissions of the pollutant. An Administrative Revision was not submitted at that time.

The AQB concurs with Dr. Thanukos assessment that the absence of Baghouse DC-010 (Unit #610) / Stack 10 would not increase the facility's potential to emit: Baghouse DC-010 (#610) was originally intended to control process emissions from a proposed Loadout Spout LS-004 (Unit #551) and Truck Loading (Unit #552). This Loadout Spout LS-004 (#551) was never constructed, but its emissions were taken into consideration by Trinity Consultants when they conducted the modeling analysis for modification M2 (Permit #1652-M2). Process emissions from Truck Loading (#552) are instead controlled by baghouse DC-008 (Unit #548) by way of the existing Loadout Spout LS-003 (Unit #546). In the current modeling demonstration conducted by the AQB, the emissions from Truck Loading (#552) that are collected by DC-008 (#548) were considered, and Lhoist is still subject to a permit emissions limit for DC-008 (#548) of 0.1 lb/hr or 0.413 TPY of PM, with which they must comply. Therefore, even if Lhoist constructs Loadout Spout LS-004 (#551) in the future, it would still be subject to the same emissions limit, or would need to conduct dispersion modeling to demonstrate compliance with the NAAQS if there is a request to increase the permit limit. Therefore, Baghouse DC-010 (#610) is not required for compliance with the permit limits or NAAQS, as demonstrated by the updated modeling demonstration performed by the AQB which modeled the process units and associated control equipment that were actually constructed (i.e., nine baghouses / stacks); and this modeling shows compliance by Lhoist with their permitted limits and the NAAQS.

At the behest of the AQB, Lhoist has submitted an Administrative Permit Revision to remove any reference to Baghouse DC-010 (#610) / Stack 10.

b). Stack No. DC-007, was modeled as horizontal by Trinity in 2000, and this was confirmed by AQB's site visit. However, AQB used a default value in the modeling run previously submitted to EPA, which assumed a vertical stack. AQB has rerun the model using a horizontal orientation. Please see the Revised Modeling Report (9/29/17).

2. Original permit was issued prior to the promulgation of the  $PM_{2.5}$  NAAQS. What is the basis for currently modeled  $PM_{2.5}$  emission rates? (e.g., source, calculations).

AQB Response:

$PM_{2.5}$  emission rates were based on the emission factor provided by Paul Oruoch, P.E., Managing Consultant at Trinity, contracted by Lhoist (see attached 12/13/16 e-mail from Trinity and associated Excel worksheet). AQB has accepted this value and how it was calculated. He was unable to find  $PM_{2.5}$  /  $PM_{10}$  particulate size distribution data specific to a lime hydrating terminal emission source. Thus, he used the guidance in AP-42 Appendix B.2 and calculated a  $PM_{2.5}$  /  $PM_{10}$  ratio of 0.52 for baghouses associated with lime operations that do not include combustion using the parameters and calculation steps shown in his e-mail.

3. Were nearby/offsite source inventories included in modeling analysis?

AQB Response:

Yes, please see the Revised Modeling Report (9/29/17) for details.

**Permitting History of Lhoist Lime Hydrating Plant in Belen in Regard to Nonexistent Baghouse/Stack #10. 1/12/18.**

Air Quality Permit No. **1652**. 11/8/95. 20 TPH lime hydrator. **Seven** baghouses and stacks constructed: Baghouse#/Fan#/Stack #: 505/506/DC1; 598/599/DC2; 542/544/DC3; 522/524/DC4; 534/536/DC5; 558/560/DC6; 548/550/DC8. No indication of baghouse/stack #10.

Permit change. 3/24/95. Addition of enclosed belt between 500-ton silo and rail loading spout; production decrease to 1000 tpd. No mention of DC10 or Unit #610.

Inspection. 12/1/97. Inspector John Volkerding. No violations were issued.

**1652 M1**, 12/30/98. Significant revision. Modification to equipment list and increase in production to total 25 TPH lime hydrator. New baghouse DC-007 Unit #565 / Fan FN-007 Unit # 566 (aka stack DC7) ducted to Bucket Elevator BE-004 Unit #539; 500 Ton Bin BN-003 Unit #540 for a total of **eight** stacks.

**M1-R1**, Administrative Permit Revision, 6/21/99. Altering crusher location, no emission changes.

**M1-R2**, Technical Permit Revision, 9/10/99. to add a by-pass screw conveyor (SC-006 Unit# 570) used to divert lime from the dynamic separator to crusher #503 A Enable the addition of gypsum to process stream. {SC-006 #570 never constructed}

10/25/99, e-mail from Norman Tupper (CLC) to Stacy Carr (Trinity Consultants), re: Stack elevations at the Belen Plant, showing nine baghouse/stacks.

**M1-R3**, Technical Permit Revision, 11/2/99. New lime sifter (Unit #571), the emissions of which are ducted to baghouse DC-005 Unit #534 / FN-005 #536. Sifter removed in 2000.

12/10/99, fax from Stacy Carr (Trinity Consultants) to Loren Bowe (CLC), showing nine baghouse/stack being modeled.

**1652-M2**. Technical Permit Revision. Permit issued on 10/2/00 (5/19/00?), and is the **currently active permit**. New equipment authorized by this permit modification includes Baghouse #610. Application submitted on 1/14/00 ruled administratively incomplete on 1/18/00. Trinity Consultant's response to request for information (1/18/00) submitted on 1/25/00, in furtherance of permit application and NOI (universal [general] construction or modify). Actual stack parameters are listed in "Table B-1. Actual Stack Parameters" (p. B-3), which lists "Unit# 610 - Dust Collector # DC-010". Modeled stack parameters are listed in "Table B-2. ISCST3 Modeled Stack Parameters" (p. B-4), which lists "Unit# 610 – DC-010". "Table B-3. Emission Units and Corresponding Controlled Processes" (p. B-5), illustrates the processes controlled by each emission unit, and lists "Dust Collector Unit #610" and corresponding "Process/Unit#" for "Loadout Spout (551) and Truck (552), which were planned to be ducted to #610. (Emissions from ducted units may go to more than one baghouse, but compliance with the specified emissions limits is required). Application also lists "Source/ID 610 [DC-010]" under "Point Sources" in the "Emission and Stack Parameter Summary", on page B-15.

AQB Modeling Summary, 3/1/00, "Table 1. Table of Emissions and Stack Parameters", lists "Stack Number DC010" (Pulse Jet Baghouse). Values seem to be patterned after DC6.

**1652-M2-R1**. Denial of Administrative Revision. Facility Withdrew. 5/24/01.



**1652-M2-R2** Technical Permit Revision. 8/22/01; add Pneumatic Car Boot BL-002 (Unit#501a) to equipment regulated by the permit; include Unit #501a as a unit ducted to baghouse DC-001 Unit #505; and to receive lime from either Pneumatic Car Boot BL-001 Unit #501 or 501a (railcar boots), but not both at same time.

Inspection. 9/1/04. AQB Inspector George Llewellyn documented that **Baghouse #610 and associated process equipment** (Loadout Spout LS-004 #551 & Fan FN 010 #611) **were never installed.** (i.e. stack #10).

NOV. 12/14/04. Insufficient record keeping regarding pressure drop across baghouse #565 DC-007; and installing baghouses with a different manufacturer from that listed in permit. Chemical Lime had substituted baghouses #548 DC-008 (controlling emissions from truck loadout [i.e. Loadout Spout LS-003 #546 & Truck #552]) and #558 DC-006 (controlling emissions from railcar loadout [i.e. Railcar #557 & LS-002 #556]) from Midwest International MV-75-3's (allowed by Permit 1652M2) with PEBCO 1-DC-175's. Chemical Lime never installed the Midwest International baghouses. The PEBCO baghouses were installed when the plant was constructed on 4/15/96.

**1652 M2-R3**, Administrative (Technical?) Permit Revision, 4/1/05, Denied. Facility did not qualify for an administrative revision.

**1652 M2-R4**, Technical Permit Revision, 7/29/05. This modification consists of an equipment exchange of two dust collectors DC-008 #548 and DC-006 #558 that control emissions from the truck (Unit 552) and railcar (Unit 557) loadout facilities. Chemical Lime Co. had installed two Pebco I-DC-175 dust collectors instead of the two Midwest International MV-75-3 dust collectors listed in the original permit. This correction resulted in a decrease in emissions from this source. Unit 610 – Baghouse, ducted to Units #551 and #552, is listed in table under “Condition 2” “Emission Rates”. Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility.

**1652 M2-R5**, 3/17/08, Denied.

10/6/08. e-mail from Louis Thanukos of Applied Environmental Consultants, Inc. to Lisa Killion, AQB, confirming that Dust Collector / DC-010 / 610 and Fan / FN-010 / 611 were never constructed. Dr. Thanukos attests that “the equipment that was not constructed does not affect emissions.” And is seeking “. . .clarification on whether correction of the air quality permit to reflect the actual processes can be done under an Administrative Amendment under 20.2. 72.219.A(1)(d) NMAC [Incorporate a change in the permit solely involving the deletion from the permit of a source or sources upon notification of the department that the source or sources have not been and will not be built]; rather than a technical revision under 20.2.72.219.B. Although the equipment that was not constructed was to have processed a material classified as a toxic air pollutant, deletion of the equipment will not result in a new emission unit or an increase in emissions of the pollutant.”

**1652 M2-R6**, 2/23/12, Administrative Permit Revision, name change.

2017. NSR Annual Fees paid in full.

**1652 M2-R7**, 12/26/17, Administrative Permit Revision, remove Dust Collector DC-010 Unit # 610 and associated Fan FN-010 Unit # 611 from equipment list.

**From:** [BARRY Ed](#)  
**To:** [Butt, Neal, NMENV](#)  
**Cc:** [Mustafa, Sufi A., NMENV](#); [SOFFEL Travis](#); [SCHOLL Chris](#)  
**Subject:** FW: PM2.5 / PM 10 ratio for LNA terminal in Belen New Mexico  
**Date:** Tuesday, December 13, 2016 3:55:09 PM  
**Attachments:** [PM2.5 to PM10 ratio-v0.0.xlsx](#)

---

Neal,

This is what my consultant could find on PM2.5 for lime and some support calculations. If you do not find something here that can help you resolve the issue, would it be possible for us to get a copy of the model for our review?

Ed

Ed Barry  
Western Environmental Manager  
Lhoist North America  
Cell 602-321-6752

---

**From:** Paul Oruoch [<mailto:POruoch@trinityconsultants.com>]  
**Sent:** Tuesday, December 13, 2016 3:27 PM  
**To:** BARRY Ed  
**Subject:** PM2.5 / PM 10 ratio for LNA terminal in Belen New Mexico

Good afternoon Ed,

I was unsuccessful in finding PM2.5 / PM10 particulate size distribution data specific to a lime hydrating terminal emission sources. Thus, I used the guidance in AP-42 Appendix B.2 and calculated a PM<sub>2.5</sub> / PM<sub>10</sub> ratio of 0.52 for baghouses associated with lime operations that do not include combustion using the parameters and calculation steps below. Also attached is a workbook containing the calculation steps:

*Parameters used for calculation*

Parameter description	Parameter ID	Parameter value	Source of parameter
Cumulative controlled PM <sub>10</sub> grain loading	CCPM10GL	0.01 gr/dscf	This is an engineering estimate
Size specific cumulative control efficiency for particle size 6 – 10 µm	SSCCPM610	99.5%	AP-42 Table B.2-3
Size specific			AP-42 Table

cumulative control efficiency for particle size 2.5 – 6 µm	SSCCPM256	99.5%	B.2-3
Size specific cumulative control efficiency for particle size <2.5 µm	SSCCPM25	99.0%	AP-42 Table B.2-3
AP-42 Category 4 (Mechanically Generated; Processed ores and nonmetallic minerals) particle size 2.5 µm cumulative %	C4PM25C	30%	AP-42 Table B.2.2, Category 4 (Page B.2-14)
AP-42 Category 4 (Mechanically Generated; Processed ores and nonmetallic minerals) particle size 6 µm cumulative %	C4PM6C	62%	AP-42 Table B.2.2, Category 4 (Page B.2-14)
AP-42 Category 4 (Mechanically Generated; Processed ores and nonmetallic minerals) particle size 10 µm cumulative %	C4PM10C	85%	AP-42 Table B.2.2, Category 4 (Page B.2-14)

### Calculation steps

1. Calculate the individual and total size specific percentages for the following particle categories: <2.5 µm [SSC4PM25], 2.5 – 6 µm [SSC4PM256] and 6 – 10 µm [SSC4PM610]:  
[SSC4PM25] = [C4PM25C] = 30%  
[SSC4PM256] = [C4PM6C] - [C4PM25C] = 32%  
[SSC4PM610] = [C4PM10C] - [C4PM6C] = 23%  
Total size percentages [SSC4PM25610] = [SSC4PM25] + [SSC4PM256] + [SSC4PM610] = 85%
2. Calculate the cumulative PM<sub>10</sub> control efficiency [CPM10CE]:  
[CPM10CE] = (([SSC4PM25] / [SSC4PM25610]) x [SSCCPM25]) + (([SSC4PM256] / [SSC4PM25610]) x [SSCCPM256]) + (([SSC4PM610] / [SSC4PM25610]) x [SSCCPM610]) = 99.32%
3. Calculate the uncontrolled cumulative PM<sub>2.5</sub> / PM<sub>10</sub> ratio [PM2510R] ratio:  
[PM2510R] = [C4PM25C] / [C4PM10C] = 0.353
4. Calculate the uncontrolled cumulative PM<sub>10</sub> grain loading [UCPM10GL]:  
[UCPM10GL] = [CCPM10GL] / (1 - [CPM10CE]) = 2.00 gr/dscf
5. Calculate the uncontrolled cumulative PM<sub>2.5</sub> loading [UCPM25GL]:  
[UCPM25GL] = [UPM10GL] x [PM2510R] = 0.71 gr/dscf
6. Calculate the uncontrolled size specific grain loading for PM <2.5 µm [USSPM25GL]:  
[USSPM25GL] = [UCPM25GL] = 0.71 gr/dscf
7. Calculate the controlled size specific grain loading for PM <2.5 µm [CSSPM25GL]:  
[CSSPM25GL] = [USSPM25GL] x (1 - [SSCCPM25]) = 0.006 gr/dscf
8. Calculate the cumulative controlled grain loading for PM<sub>2.5</sub> [CCPM25GL]:  
[CCPM25GL] = [CSSPM25GL] = 0.006 gr/dscf
9. Calculate the PM<sub>2.5</sub> / PM<sub>10</sub> ratio [PM10PM25R]:  
[PM10PM25R] = [CCPM25GL] / [CCPM10GL] = 0.52

Let me know if you have any questions. Thanks.

**Paul Oruoch, P.E.**

Managing Consultant

**Trinity Consultants**

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Email: [poruoch@trinityconsultants.com](mailto:poruoch@trinityconsultants.com) |

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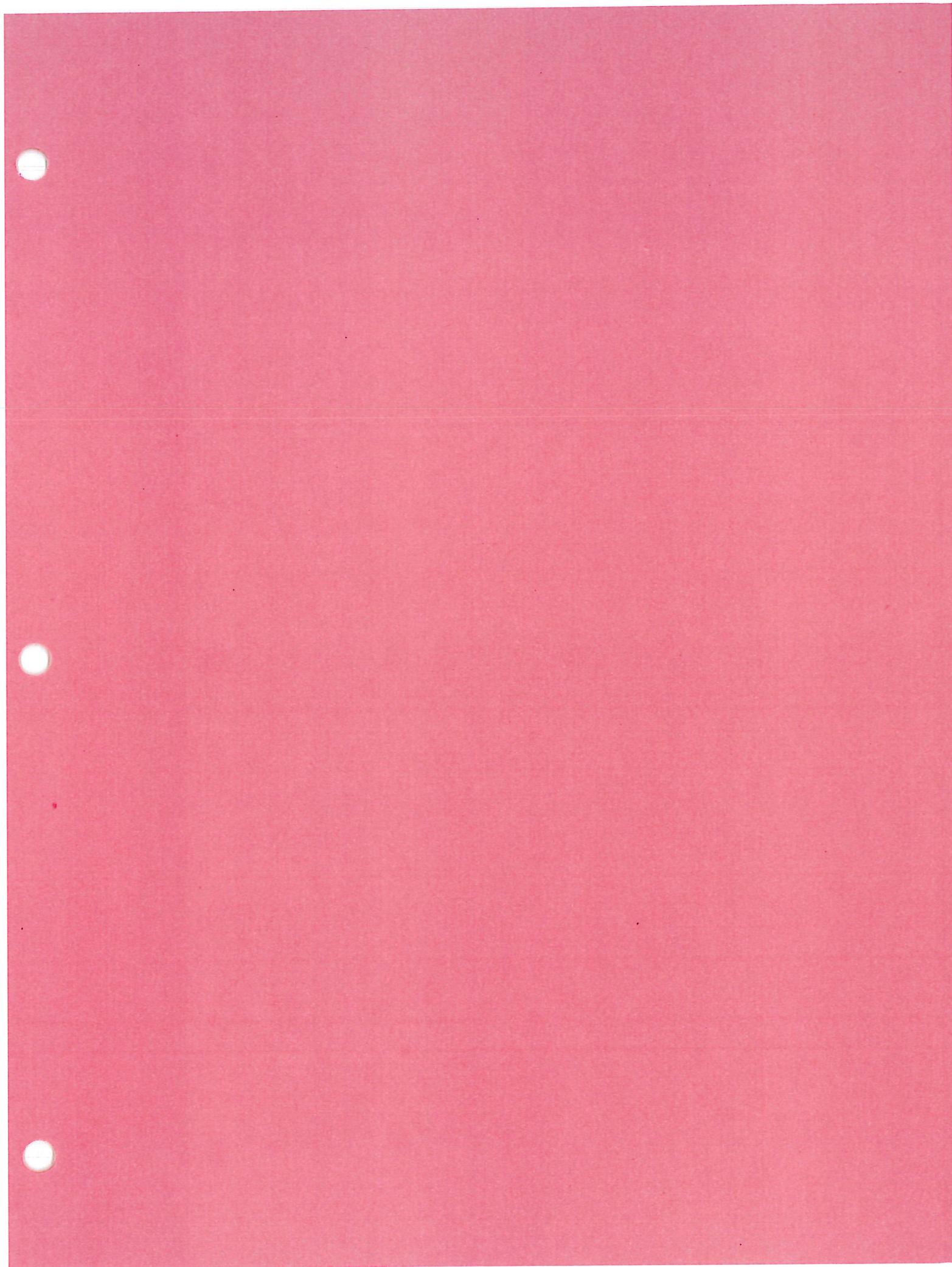


Trinity  
Consultants

Controlled PM10 loading	0.01 g/dscf
Cumulative PM10 control	99.32%
Particle size 6 - 10 µm control efficiency	99.50%
Particle size 2.5 - 6 µm control efficiency	99.50%
Particle size 0 - 2.5 µm control efficiency	99.00%
Uncontrolled PM2.5 / PM10 Ratio	0.35 Category 4
Uncontrolled cumulative PM10 loading	1.48
Uncontrolled cumulative PM2.5 loading	0.52
Uncontrolled size specific PM2.5 loading	0.52
Controlled size specific PM2.5 loading	0.005
Controlled cumulative PM2.5 loading	0.005
Controlled PM2.5 / PM10 ratio	0.52

Particle size	Size Percentage	Ratio	CE component
<2.5	30	0.353	0.35
2.5-6	32	0.376	0.37
6-10	23	0.271	0.27
	85.000	1.000	0.993

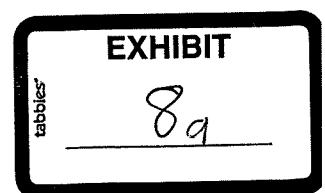




**New Mexico**  
**Clean Air Act Section 110(l)**  
**Noninterference Demonstration**  
**For**  
**Repeal of 20.2.20 NMAC, *Lime Manufacturing Plants – Particulate Matter***

~~[February 9]~~ ~~[March 22]~~ May 17, 2018

**Prepared by:**  
**New Mexico Environment Department – Air Quality Bureau**



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## CLEAN AIR ACT SECTION 110(I) DEMONSTRATION

### 1.0 INTRODUCTION

The New Mexico Environment Department, Air Quality Bureau (AQB) is proposing to repeal 20.2.20 NMAC, *Lime Manufacturing Plants – Particulate Matter*, and this demonstration is provided to show that this repeal will not interfere with New Mexico's ability to attain or maintain compliance with the current particulate matter (PM) National Ambient Air Quality Standards (NAAQS).

The Clean Air Act (CAA) contains "anti-backsliding" provisions which prevent the reduction or removal of pollution controls that could potentially allow an area to slip into noncompliance with the CAA. Section 110(I) stipulates that the EPA Administrator "shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and Reasonable Further Progress (RFP) . . . or any other applicable requirement of this chapter", including, but not limited to, attainment of the NAAQS and Rate of Progress (ROP).

"For SIP revisions that will or could potentially lead to a change in emissions or ambient concentrations of a pollutant or its precursors, the Section 110(I) demonstration should address all pollutants whose emissions and/or ambient concentrations may change as a result of the SIP revision." (*Demonstrating Noninterference Under Section 110(I) of the Clean Air Act When Revising a State Implementation Plan*, DRAFT, USEPA, June 8, 2005).

Because 20.2.20 NMAC, is part of the New Mexico State Implementation Plan (SIP), the AQB is required to make a demonstration of noninterference under Section 110(I) to the EPA that the proposed repeal will not negatively affect the attainment or maintenance of any NAAQS, ROP, RFP, etc. This is referred to as a "110(I) demonstration", and entails either:

- "1) Substitution of one measure by another with equivalent or greater emissions reductions or air quality benefit; or
- 2) an air quality analysis showing that removing the measure will not interfere with other applicable requirements." (EPA, 6/8/05)

### 2.0 BACKGROUND

#### 2.1 Why Repeal 20.2.20 NMAC?

'Recognizing the importance of permitting to environmental protection and conducting business in New Mexico, the New Mexico Environment Department (Department) undertook a review of their permitting processes' in 2012 resulting in the *Improving Environmental Permitting* report (NMED, 11/14/12), which summarized the findings and recommendations related to the AQB construction permit program. The report identified 20.2.20 NMAC as one of several regulations that should be evaluated for potential repeal. This initiated an analysis of the rule which found that most of the emissions standards for lime manufacturing plants cited in this rule were incorporated from the federal New Source Performance Standard (NSPS), *Standards of Performance for Lime Manufacturing Plants*, 40 CFR 60 Subpart HH, promulgated on March 7, 1978 (43 FR 9452, 3/7/78). However, Subpart HH has changed substantively since 20.2.20



NMAC was first adopted on November 15, 1978, while the State rule has not been changed. In addition, the performance standards regulating lime hydrators cited in 20.2.20 NMAC are no longer included in federal performance standards.

In addition, this rule regulates “particulate matter”, defined as “any airborne, finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers” (20.2.2.7.Y NMAC). This is an overly broad categorization which includes total suspended particulate matter (TSP), PM<sub>10</sub> and PM<sub>2.5</sub>, making it problematic to enforce. For example, 20.2.20 NMAC controls TSP, but the federal TSP standards, first promulgated in 1971 (36 FR 8186), have been replaced by PM<sub>10</sub> as the indicator for particulate matter for ambient standards (52 FR 24634, 7/1/1987); and the State TSP standards (20.2.3.109 NMAC, *Total Suspended Particulates*) are under consideration for repeal by the Department. In addition, ~~[there are no TSP monitors in operation in New Mexico]~~ the Department discontinued ambient monitoring for TSP in April 1998, therefore, TSP concentrations are not monitored to determine compliance with any of the PM NAAQS. [therefore] Consequently, compliance with the New Mexico Ambient Air Quality Standards (NMAAQs) must be determined using dispersion model estimates.

Therefore, repealing 20.2.20 NMAC would eliminate a rule that is outdated and at variance with federal standards.

## 2.2 History of 20.2.20 NMAC

20.2.20 NMAC was first adopted by the Environmental Improvement Board (EIB) as Air Quality Control Regulation (AQCR) 509, *Lime Manufacturing Plants – Particulate Matter*, on November 15, 1978 (effective 12/21/78, although some sections have a 12/31/1980 compliance date). This rule was adopted to address two issues: 1. Establish control measures to address potential exceedances of the TSP standard in the region of Hurley, New Mexico; and 2. Incorporate the contemporaneously promulgated NSPS Subpart HH (affecting any lime manufacturing plants commenced on or after 5/3/77). (43 FR 9452). These NSPS limits were incorporated into AQCR 509 along with an additional ad hoc PM emission limit of 10 lbs. per hour for “existing” Rotary Lime Kilns (constructed and operational, or at which construction was commenced, prior to 5/3/77) to regulate the existing Rotary Lime Kilns at that time, one located at Kennecott Copper Corp. near Hurley, and the other at the Mathis & Mathis lime plant, 10 miles east of Silver City (both have since closed<sup>1</sup>). This limit was set using an estimate of 95% control of emissions from an existing lime kiln.

20.2.20 NMAC established State particulate matter emissions limits for lime manufacturing plants (those that produce lime by calcination in a kiln) and lime hydrators (those that convert quicklime (Calcium Oxide (CaO)) to hydrated lime (Calcium Hydroxide (Ca(OH)<sub>2</sub>)).

In addition to NSPS Subpart HH, which was substantively revised on April 26, 1984 (49 FR 18080), lime manufacturing is also regulated by 40 CFR Part 63, Subpart AAAAA, *National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants* (NESHAP Subpart AAAAA), which was promulgated on January 5, 2004 (69 FR 394-433). Currently,

---

<sup>1</sup> The Hurley Mill was shut down in 1982, and the Hurley Smelter stopped operating in January of 2001 and was demolished in the summer of 2007. (Chino Mine Closure / Closeout Plan Update, Golder Associates, 2/14/18, p. 30)

there are no facilities in New Mexico, under the jurisdiction of the Department, subject to either NSPS Subpart HH or NESHAP Subpart AAAAAA. There is only one lime hydrator in operation in New Mexico, the Lhoist North America (Lhoist) plant in Belen, NM, which is subject to 20.2.20 NMAC.

### 3.0 PROPOSED REPEAL OF 20.2.20 NMAC

#### 3.1 Elimination of State performance standards for lime manufacturing plants

Repealing 20.2.20 NMAC would eliminate the State standards for lime manufacturing plants. However, there are no existing lime manufacturing plants in New Mexico (United States Geological Survey (USGS), *Mineral Industry Surveys, Directory of Lime Plants and Hydrating Plants in the U.S. in 2014*). Therefore, there are not any lime manufacturing plants subject to 20.2.20 NMAC which could potentially be affected by this repeal.

All indications are that no lime manufacturing plant will be constructed in New Mexico in the near future. One indicator is that the U.S. lime industry has high barriers to entry (e.g. domination by a few large-scale producers, a scarcity of accessible high-quality limestone deposits, the need for lime plants and facilities to be located close to markets with access to suitable transportation networks to allow for cost-effective production and distribution, environmental regulations, and the high capital cost of the plants and facilities). Another indicator is that there has been only one new U.S. lime plant constructed in the past 20 years (Verona, Kentucky). (M. Miller, 2012 Minerals Yearbook, 'Lime', USGS, p. 43.1).

In addition, lime production in the United States has been flat over the last five years, with production in 2016 reaching 17 million metric tons of quicklime and hydrate being produced. ('Lime' USGS Mineral Commodity Summaries, January 2017, p.98). This is still below the pre-recession production level of 21 million metric tons in 2006. (M. Miller, Lime in The United States 1960 to 2009, Mineral Industry Surveys, USGS, May 2011, p. 5)

"A number of plants that shut down during the 2008-09 recession remained idle for all or the majority of 2012, including five Lhoist North America plants, Alabaster, AL, Douglas, AZ, Tenmile, ID, Grantsville, UT and the hydrating plant at Belen, NM." (Miller, 2012, p. 43.2). The Lhoist plants in Douglas, Tenmile and Grantsville were idle in 2014 as well. (USGS, 2014)

If in the event that a new lime manufacturing plant were to locate in New Mexico, it would be subject to NSPS Subpart HH and NESHAP Subpart AAAAAA, which are incorporated by reference at 20.2.77 NMAC, *New Source Performance Standards* and 20.2.82 NMAC, *Maximum Achievable Control Technology Standards for Source Categories of Hazardous Air Pollutants* respectively. It would also be subject to permitting under 20.2.72 NMAC, *Construction Permits*, and the applicant would be required to show compliance with the NAAQS under Section 20.2.72.203 NMAC. 20.2.72 NMAC is included in New Mexico's SIP. A comparison of federal and state standards regulating lime manufacturing and lime hydrators is shown as Table 1.



### 3.2 Elimination of the particulate matter emissions limit for lime hydrators

A repeal of 20.2.20 NMAC would eliminate the PM emissions limit for lime hydrators (not to exceed 0.15 pounds per ton of lime feed). However, the existing lime hydrator (Lhoist) would still be required to comply with their federally-enforceable permitted emissions limits, and any new facility would also be required to apply for a permit with enforceable emissions limits (pursuant to 20.2.72 NMAC).

Lhoist operates a lime hydrator under an NSR permit (1652-M2-R7), and their Potential to Emit (PTE) for particulate matter is based on a permit limit, which is federally enforceable via SIP-approved 20.2.72 NMAC. Lhoist does not operate a kiln.

If 20.2.20 NMAC were repealed, a permit would still be required for the existing Lhoist lime hydrating facility (or any new facility), because uncontrolled particulate matter emissions from the seasoning chamber (i.e., the lime hydrator), are estimated to be greater than the 10 pounds per hour or 25 tons per year permitting thresholds stipulated in 20.2.72 NMAC. In addition, a permit would be necessary to specifically limit their emissions of Toxic Air Pollutants (quick lime and hydrated lime) as required per 20.2.72.200.A.(4), 400, 402 and 502 NMAC. A comparison of 20.2.20 NMAC requirements and [backstop] protections unaffected by the proposed repeal are shown in Table 2.

Permit conditions that control emissions of particulate matter will continue to apply after 20.2.20 NMAC is repealed until that permit is revised. This is because enforcement actions rely upon the version of the rule or permit that a source was subject to at the time the permit was issued, even if the rule has been repealed or amended since then. Permit condition #1(d) stipulates that: "the hydrated lime production rate shall not exceed 25 tons per hour." Also, permit condition #2(a), sets specific emission rates for PM<sub>10</sub>, TSP, CaO and Ca(OH)<sub>2</sub> that are enforceable without any reliance upon 20.2.20 NMAC. 20.2.72.210 NMAC, *Permit Conditions*, stipulates that: "The contents of the application specifically identified by the department shall become terms and conditions of the permit or permit revision." Therefore, the Department can set any reasonable permit conditions upon a source. "Any term or condition imposed by the department on a permit or permit revision is enforceable to the same extent as a regulation of the board." (20.2.72.210.D NMAC). This condition is not reliant upon 20.2.20 NMAC.

Should Lhoist apply for a permit revision in response to the repeal of 20.2.20 NMAC (e.g., to remove Permit Condition #1(e) which cites to 20.2.20.109.B, 111, 112, & 113 NMAC), 20.2.72 NMAC [requires] would require that the applicant show compliance with the NAAQS. With the elimination of 20.2.20 NMAC, these references would no longer refer to existing requirements for lime hydrating plants. However, Permit condition #1(e) subjecting Lhoist to requirements in Section(s) 109B, 111, 112 and 113 will still apply just as if 20.2.20 NMAC were never repealed.

A "regulatory compliance discussion" demonstrating Lhoist's compliance with 20.2.20 NMAC, Sections 109B, 111, 112 and 113, is provided in Attachment B of the *Air Quality Permit Application and Notice of Intent Universal (General) To Construct or Modify: Response To NMED-AQB Request for Information (01/18/2000)*, Trinity Consultants. This delineates the

emission factors, pollution control technology, and sampling and testing protocols which will remain in place to ensure that Lhoist's operations comply with their permit, even after 20.2.20 NMAC is repealed. Any changes made to their operations would require a permit modification and demonstration of compliance with the NAAQS.

Table 2 delineates other protections unaffected by the repeal that can serve the same or similar functions as 20.2.20 NMAC. In addition, their Permit Condition #1(f), states that: "Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification. . .of this permit." Therefore, a repeal of 20.2.20 NMAC would not enable emissions from the facility to interfere with attainment or maintenance of the NAAQS.

### 3.3 Modeling demonstration

The previous modeling demonstration conducted for this facility did not address building downwash (stating that 'Building downwash was not included as it is optional for the radius of impact analysis'), and did not model for PM<sub>2.5</sub>; however, the EPA is requiring both of these as part of this 110(l) demonstration. Therefore, the AQB conducted a site visit of this facility to gather spatial data to use as inputs into an updated dispersion modeling analysis, which verified that this facility at its PTE, as constructed and operated, will not cause nor significantly contribute to any exceedances of any applicable air quality standards. This new modeling also utilized the more-current EPA-accepted program "AERMOD" instead of "ISCST3". (See *Revised Air Dispersion Modeling Summary for the Lhoist North America – Belen Chemical Lime Plant, Permit No. 1652 M2-R6*, revised 9/29/17)

## 4.0 NON-INTERFERENCE WITH THE PM NAAQS

Removal of 20.2.20 NMAC from the SIP is not expected to affect the attainment status of any areas of the state. This is based on monitoring data and attainment status for PM NAAQS in New Mexico. Monitoring data for New Mexico shows that all counties are well below the PM<sub>2.5</sub> NAAQS, and except for Doña Ana County are well below the NAAQS for PM<sub>10</sub> as well. For Doña Ana, Luna and San Juan counties, all the exceedances were flagged in AQS as exceptional events (high winds or wildfire). Excluding exceptional events, we would expect our 3-year estimated exceedances to be less than 1. Ambient levels in these counties are so low that even if there were a slight increase, it is not likely to cause a violation of the NAAQS or NMAAQs, hence noninterference is supported.

### 4.1 Monitoring Data

#### 4.1.1 PM<sub>2.5</sub>

#### **Non-Continuous Federal Reference Method (FRM)**

The AQB operates three Method 145 PM<sub>2.5</sub> Thermo Environmental Instruments 2025i series Partisol FRM samplers within the air monitoring network. All three are in Doña Ana County (Air Quality Control Region 6).

Two of the three samplers are at Desert View (AQS# 35-013-0021), which is designated as the AQB's co-location site. The third sampler is located in Anthony (AQS# 35-013-0016).

### **Continuous**

The AQB currently operates five Method 170 Met-One Beta Attenuation Monitoring (BAM)-1020 PM<sub>2.5</sub> samplers within the air monitoring network designated as State or Local Air Monitoring Stations (SLAMS). The BAM-1020 samplers are continuous and capture particulate data daily as compared to once every third day sampling as with the FRM samplers.

1. Santa Fe Airport (AQS# 35-049-0021); 2. Hobbs Jefferson site (AQS# 35-025-0008) (general background site location); 3. Anthony (AQS# 35-013-0016); 4. Las Cruces Office (AQS# 35-013-0025) (Regional Transport particulate site location); and 5. Taos (AQS# 35-055-0005) (Air Quality Control Region 3).

(NMED AQB 2017 Annual Network Review)

New Mexico has submitted monitoring data showing attainment for the counties with active PM<sub>2.5</sub> monitors in their jurisdiction. Albuquerque-Bernalillo has submitted its own monitoring data showing attainment for Bernalillo County. All areas in New Mexico (including Bernalillo County) have been designated Attainment / Unclassifiable for the 2012 primary annual PM<sub>2.5</sub> NAAQS based on air quality monitoring data from 2011-2013 (80 FR 2206, January 15, 2015).

#### 4.1.2 PM<sub>10</sub>

### **Non-Continuous FRM:**

Anthony (AQCR 6) Thermo Partisol 2025i FRM PM<sub>10</sub> sampler.

### **Continuous Met-One BAM-1020 Federal Equivalent Method (FEM):**

6CM Anthony (AQS# 35-013-0016); 6ZK Chaparral (AQS# 35-013-0020); 6ZM Desert View (AQS# 35-013-0021); 6ZL Holman Road (AQS# 35-013-0019); 6WM West Mesa (AQS# 35-013-0024); 1H Substation (AQS# 35-045-1005); and 7E Deming Airport (AQS# 35-029-0003).

All counties except for Doña Ana are in attainment or unclassifiable for PM<sub>10</sub>. Anthony, New Mexico, located in Doña Ana County, was designated nonattainment for PM<sub>10</sub> and classified as moderate under Sections 107(d)(4)(B) and 188(a) of the CAA, upon enactment of the Clean Air Act Amendments (CAAA) of 1990. (56 FR 56694, 11/6/91; 57 FR 13498, 13537, 4/16/92). On 11/8/91, NMED submitted a SIP revision for the Anthony PM<sub>10</sub> nonattainment area. NMED determined that all point and area sources of PM<sub>10</sub> in or affecting the area to be *de minimis*, except for unpaved roads, unvegetated and sparsely vegetated areas, and range lands. The paving of roads was determined to be economically infeasible, the enhancement of ground cover in the region to be technologically infeasible, and emissions from range lands to be non-anthropogenic. (58 FR 18190-7, 4/8/93). Despite continued efforts by the State and Doña Ana County to reduce dust levels in the area, the State was not confident that the implemented control strategies would prevent primarily non-anthropogenic exceedances of the standard. The State requested a waiver of the compliance date, as allowed under Section 188(f) of the CAAA. On 9/9/93 the EPA granted approval of the Anthony, New Mexico, moderate nonattainment area

PM<sub>10</sub> SIP, submitted 11/8/91, including the waiver of the moderate area attainment date for Anthony. (58 FR 47383). “The overwhelmingly dominant sources of PM<sub>10</sub> concentrations in the Anthony area are nonanthropogenic emissions from the surrounding desert and residual nonanthropogenic emissions from surrounding rangelands which are not feasibly controllable.” (58 FR 47384). This area is still impacted by blowing dust from high winds, and NMED is developing a dust mitigation plan for both Doña Ana and Luna counties, as required by the Exceptional Events Rule. In addition to the dust mitigation plan, NMED is developing a fugitive dust rule that will be applicable in areas of the state requiring a mitigation plan in accordance with 40 CFR Part 51.930. Since elevated PM<sub>10</sub> levels in Doña Ana County are not due to lime manufacturing or lime hydrators, they would be unaffected by the repeal of 20.2.20 NMAC. Therefore, the repeal of 20.2.20 NMAC will not affect ongoing efforts to reduce PM<sub>10</sub> levels in Anthony.

#### 4.1.3 TSP

At one time, there was a nonattainment area within Grant County, consisting of a “4.5 mile-radius circle around the Kennecott Copper Smelter which was located near the town of Hurley... Air quality violations resulted from a combination of emissions from the smelter stacks, fugitive emissions, and fugitive dust from storage piles and unpaved roads on the smelter property and within the town of Hurley”. (44 FR 46896, 8/9/79). Control strategies were put in place to address particulate matter, including: 20.2.20 NMAC - *Lime Manufacturing Plants – Particulate Matter* (AQCR 509); as well as 20.2.16 NMAC - *Nonferrous Smelters (New and Existing) – Particulate Matter* (AQCR 506); 20.2.21 NMAC - *Fugitive Particulate Matter Emissions From Nonferrous Smelters* (AQCR 510); and 20.2.22 NMAC - *Fugitive Particulate Matter Emissions From Roads Within The Town Of Hurley* (AQCR 511). However, since that time the federal TSP standard has been revoked and the smelter has been closed, so TSP is no longer an issue in this area.

Table 3 shows six recent years of air quality data for PM in New Mexico.

The EPA calculates annual PM<sub>2.5</sub> design values by first averaging the quarterly PM<sub>2.5</sub> values to get an annual average and then averaging the annual average PM<sub>2.5</sub> values over three years to get a design value. The highest monitored design value from 2010 to 2015 for the 24-Hour PM<sub>2.5</sub> NAAQS was 63% of the standard in 2015 in Lea County; and the highest DV for the Annual standard was 70% in 2013, also in Lea County; both of which are well below the standard. No increase in PM<sub>2.5</sub> levels are anticipated with a repeal of 20.2.20 NMAC, but there is ample headroom just the same.

Figure 1 shows that the Annual PM<sub>2.5</sub> design value trends were below the 2012 Annual PM<sub>2.5</sub> NAAQS of 12.0 µg/m<sup>3</sup> for all counties with monitors in New Mexico.

Figure 2 shows the 24-Hour PM<sub>2.5</sub> design value trends were below the 2012 24-Hour PM<sub>2.5</sub> NAAQS of 35 µg/m<sup>3</sup> for all counties with monitors in New Mexico

For the 24-Hour PM<sub>10</sub> standard, the only consistent exceedances are in Doña Ana County, which are caused by wind-blown dust and not by lime manufacturing or lime hydrating plants.

Figure 3 shows the 24-Hour PM<sub>10</sub> design value trends

Removal of 20.2.20 NMAC from the SIP is not expected to affect the PM attainment status of any area in the state.

## 5.0 CONCLUSION

The AQB concludes that 20.2.20 NMAC is not needed to comply with Title I of the CAA, *Air Pollution Prevention and Control* Parts A through D.

The AQB concludes that repeal of 20.2.20 NMAC will not interfere with the attainment or maintenance of any applicable NAAQS. All counties are well below the PM<sub>2.5</sub> NAAQS, and all but one county (Doña Ana) are well below the PM<sub>10</sub> NAAQS. Exceedances in Doña Ana County are due to windblown dust, and are not due to lime manufacturing or lime hydrators regulated by 20.2.20 NMAC.

20.2.20 NMAC regulates PM emissions at lime manufacturing plants and lime hydrators. There are no lime manufacturing plants in New Mexico, and only one hydrator. No growth is expected in these source categories; however, new or existing sources would be covered by minor NSR or PSD permit programs under 20.2.72 NMAC and 20.2.74 NMAC respectively, which are SIP-approved, as well as by the applicable NSPS and NESHAP for which New Mexico has delegated authority to enforce.

Only one source (Lhoist) is currently subject to 20.2.20 NMAC, and therefore will be the only source potentially impacted by the repeal of 20.2.20 NMAC. An AERMOD dispersion modeling analysis of the Lhoist facility to address building downwash and to demonstrate compliance with the PM<sub>2.5</sub> NAAQS shows that this facility will not negatively affect the NAAQS as permitted and operated.

Therefore, with this submission, the AQB believes the requirements of Section 110(l) of the Clean Air Act relative to repeal of 20.2.20 NMAC have been met.

**TABLE 1**  
**Comparison of 20.2.20 NMAC with Federal Rules:**

	<b>20.2.20 NMAC Lime Manufacturing Plants – Particulate Matter (adopted November 15, 1978)</b>		<b>40 CFR 63 Subpart AAAAA, NESHAP for Lime Manufacturing Plants (LMP) (adopted 2004)</b>		<b>40 CFR 60 Subpart HH, Standards of Performance for LMP (April 26, 1984)</b>
<b>Applicability</b>	<b>New LMP</b> (Including Hydrated Lime production): construction or modification commenced <i>on or after</i> 5/3/1977	<b>Existing LMP:</b> constructed and operational, or at which construction was commenced, <i>prior to</i> 5/3/1977	<b>New Lime Kiln / Processed Stone Handling (PSH)<sup>2</sup> operation:</b> construction or reconstruction commenced <i>after</i> 12/20/2002	<b>Existing Lime Kiln / PSH operation:</b> construction commenced on or before 12/20/2002	Commences construction or modification of Rotary Lime Kiln (RLK) <i>after</i> 5/3/1977
<b>PM emissions limits for lime kilns</b>	> <b>0.30 lb./ton</b> limestone <sup>3</sup> feed	> <b>10 lbs./hr.</b> from any Rotary Lime Kiln	0.10 lb./ton stone feed	0.12 lb./ton stone feed (no wet scrubber installed prior to 1/5/04); 0.60 lb./tsf (with scrubber)	any gases which contain PM in excess of <b>0.60 lb./ton</b> of stone feed (limestone feedstock & millscale or other iron oxide additives)
<b>PM emissions limits for Stack Emissions</b>			0.05 grams/dry standard cubic meter PSH Operations		
<b>PM emissions limits from lime hydrators</b>	> <b>0.15 lb./ton</b> lime feed to any lime hydrator	NA	NA	NA	NA
<b>Opacity limit</b>	≥ <b>10%</b> from any lime kiln	NA	7% PSH non-scrubber stack or fabric filter; 10% Fugitive emissions		<b>15%</b> when exiting from a dry emission control device

<sup>2</sup> **Processed stone** means limestone or other calcareous material that has been processed to a size suitable for feeding into a lime kiln.

<sup>3</sup> **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).

<b>Emissions threshold for applicability</b>	None (all such plants would be subject)	Only LMPs that are major sources or located at, or are part of, a major source of HAP emissions (10/25 TPY) unless LMP is located at a Kraft, soda or sulfite pulp mill, beet sugar plant, or only processes sludge containing calcium carbonate from water softening processes	Any RLK used to manufacture lime after 5/3/1977 (except at Kraft pulp mills)
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**TABLE 2**

Before and after comparison of 20.2.20 NMAC, *Lime Manufacturing Plants - Particulate Matter* proposed to be repealed, with air quality protections unaffected by repeal

Part 20 Citation	Part 20 Requirements Proposed for Repeal	Protections Unaffected by Repeal
20.2.20.109 NMAC, <i>EMISSIONS LIMITATIONS - NEW PLANT</i>	“The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to:”	NSPS Subpart HH – <i>Standards of Performance for Lime Manufacturing Plants</i> , §60.342 <i>Standard for particulate matter</i> . Emissions from any Rotary Lime Kiln not to exceed:
20.2.20.109.A NMAC	A. “Exceed 0.30 pounds per ton of limestone feed, or exhibit ten percent opacity or greater, from any lime kiln; or”	0.60 lb. PM/ton of stone feed, or exhibit greater than 15 percent opacity from a dry emission control device. NMED did not revise Part 20 to incorporate these new standards after the remand of the NSPS by the Court of Appeals, which resulted in Part 20 being more restrictive. However, if Part 20 were repealed, the revised NSPS would still be protective of air quality. A new lime manufacturing plant would still be subject to NSPS Subpart HH, <i>Standards of Performance for Lime Manufacturing Plants</i> and NESHAP Subpart AAAAA, <i>National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants</i> .

20.2.20.109.B NMAC	<p><b>B.</b> “Exceed 0.15 pounds per ton of lime feed to any lime hydrator.”</p>	<p>The existing lime hydrating facility, Lhoist North America, in Belen, NM, operates under NSR Permit #1652-M2-R6, which would remain in place after the repeal of Part 20. Therefore, they would still be required to comply with their permitted emissions limits. Their Potential to Emit for particulate matter is based on a permit limit, which is federally enforceable via SIP-approved 20.2.72 NMAC, <i>Construction Permits</i> (Part 72). A permit would still be required for the existing Lhoist facility, or any new facility due to uncontrolled PM emissions from the seasoning chamber (i.e. lime hydrator), which are estimated to be greater than the 10 lb./hour or 25 TPY permitting thresholds stipulated by Part 72. In addition, a permit would still be necessary to specifically limit emissions of Toxic Air Pollutants (e.g. quick lime and hydrated lime) as required per 20.2.72.200.A.(4), 400, 402 and 502 NMAC. Should Lhoist apply for a permit revision in reaction to the repeal of Part 20 (e.g. to remove Permit Condition #1(e) which cites to 20.2.20.109.B, 111, 112, and 113 NMAC), Part 72 would still require the applicant to show compliance with the NAAQS. In addition, Permit Condition #1(f) states that: “Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of</p>
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Part 20 Citation	Part 20 Requirements Proposed for Repeal	Protections Unaffected by Repeal
		emissions. Any such proposed changes shall be submitted as a revision or modification. . .of this permit.” Therefore, the repeal of Part 20 would not lessen protections afforded by their permit, and would not enable emissions from the facility to interfere with attainment or maintenance of the NAAQS.
20.2.20.110 NMAC, <i>EMISSIONS LIMITATIONS - EXISTING PLANT</i>	“The owner or operator of an <b>existing</b> lime manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to exceed 10 pounds per hour from any rotary lime kiln.”	There are no “Existing lime manufacturing plants” located in New Mexico. “Existing” is defined as “constructed and operational, or at which construction was commenced, <b>prior to 5/3/1977</b> ”
20.2.20.111 NMAC, <i>EMISSION CONTROLS</i>	“Any person owning or operating a lime manufacturing plant shall equip and maintain all crushers, screens or other size-classification units, hoppers and chutes with:”	
20.2.20.111.A NMAC	A. “Systems of enclosures, dust suppressant sprays and other measures as necessary to prevent the release of particulate matter emissions to the atmosphere; <b>or</b> ”	These control technologies can be incorporated as conditions of a federally-enforceable permit pursuant to: 20.2.72.210.B.(2) NMAC: (2) “A requirement that such source install and operate control technology, determined on a case-by-case basis, sufficient to meet the requirements of the Air Quality Control Act and the federal act and regulations promulgated under either;”
20.2.20.111.B NMAC	B. “Equip such process units with hoods, fans, and fabric filters, wet scrubbers or other collection and control systems approved by the Department as at least as effective to reduce particulate matter emissions to the atmosphere.”	

Part 20 Citation	Part 20 Requirements Proposed for Repeal	Protections Unaffected by Repeal
20.2.20.112 NMAC, <i>STACK REQUIREMENTS</i>	<p>“The owner or operator of lime manufacturing plants shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere from a lime kiln or lime hydrator except through stacks equipped with sampling ports and platforms in such number, location and size to allow accurate sampling to be performed.”</p>	<p>These sampling methods can be incorporated as conditions of a federally-enforceable permit pursuant to: 20.2.72.210.C.(1) - (5) NMAC “(1) Sampling ports of a size, number and location as the department may require; (2) Safe access to each port; (3) Instrumentation to monitor and record emission data including continuous emission monitoring, if appropriate; (4) Any other reasonable sampling, testing and ambient monitoring and meteorological facilities and protocols; and (5) Periodic testing pursuant to 20.2.72.213 NMAC.”</p>
20.2.20.113 NMAC, <i>STACK TESTING</i>	<p>“Compliance with 20.2.20.109 NMAC and 20.2.20.110 NMAC shall be determined consistent with the method for manual stack testing set forth by the US EPA at 40 CFR, Part 60, Appendix A, Methods 1 through 5, or any other method receiving prior approval from the Department. Upon request of the Department, the owner or operator of lime manufacturing plants shall perform stack testing according to the method stated above and report the results of such tests in the format and time period specified by the Department. The owner or operator shall inform the Department of the dates and times of such testing so that the Department may have opportunity to have an observer present during testing.”</p>	<p>After repeal, facilities will still be subject to methods for manual stack testing set forth by the US EPA at 40 CFR Part 60, Appendix A, Methods 1 through 5</p>

Part 20 Citation	Part 20 Requirements Proposed for Repeal	Protections Unaffected by Repeal
<p>20.2.20.114 NMAC,  <i>CONTINUOUS  EMISSION  MONITORS - NEW  PLANTS</i></p>	<p>“The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow operation of the new lime manufacturing plant unless the plant is equipped with continuous monitoring systems as specified in 40 CFR, Part 60, Subpart HH, Section 60.343.”</p>	<p>A new lime manufacturing plant (i.e. rotary lime kiln) would still be subject to NSPS Subpart HH, §60.343 <i>Monitoring of emissions and operations</i>:</p> <p>(a) “The owner or operator of a facility . . . 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. . .” The requirement for continuous monitoring systems can be incorporated as a condition of a federally-enforceable permit pursuant to 20.2.72.210.C.(3) NMAC:</p> <p>(3) “Instrumentation to monitor and record emission data including continuous emission monitoring, if appropriate”;</p>

**Table 3**  
**Recent Air Quality Data for PM in New Mexico**

**PM<sub>2.5</sub>**

Site Name	Site ID & County	Year	24-Hour Design Value	Percent of 24-Hour Standard (35 µg/m <sup>3</sup> ) <sup>4</sup>	Annual Design Value	Percent of Annual Standard (12 µg/m <sup>3</sup> ) <sup>5</sup>
<b>Highest Monitored Design Values</b>						
Las Cruces	35-013-0025 Doña Ana	2010	12	34	5.4	45
Farmington	35-045-0019 San Juan	2011	14	40		
Las Cruces	35-013-0025 Doña Ana	2011			5.3	44
Hobbs	35-025-0008 Lea	2012	17	48	7.6	63
Hobbs	35-025-0008 Lea	2013	22	63	8.4	70
Hobbs	35-025-0008 Lea	2014	21	60	7.8	65
Las Cruces	35-13-0025 Doña Ana	2015	13	37	7.8	65

<sup>4</sup> 98<sup>th</sup> percentile, averaged over 3 years

<sup>5</sup> Annual mean, averaged over 3 years

PM<sub>10</sub> (24-hour standard 150 µg/m<sup>3</sup>)<sup>6</sup>

Site Name	Site ID & County	Design Value Year	3-Year Estimated Exceedances
<b>Highest Exceeding Monitors</b>			
Deming	35-029-0003 Luna	2010	9.3
Anthony	35-013-0016 Doña Ana	2011	7.9
Anthony	35-013-0016 Doña Ana	2012	11.3
Anthony	35-013-0016 Doña Ana	2013	12.4
Anthony	35-013-0016 Doña Ana	2014	10.7
Anthony	35-013-0016 Doña Ana	2015	7.6
<b>Second Highest</b>			
Chaparral	35-013-0020 Doña Ana	2010	8.5
Chaparral	35-013-0020 Doña Ana	2011	7.1
Chaparral	35-013-0020 Doña Ana	2012	9.5
Chaparral	35-013-0020 Doña Ana	2013	9.9
Desert View	35-013-0021 Doña Ana	2014	8.7
Desert View	35-013-0021 Doña Ana	2015	7.1

<sup>6</sup> Not to be exceeded more than once per year on average over 3 years



Figure 1

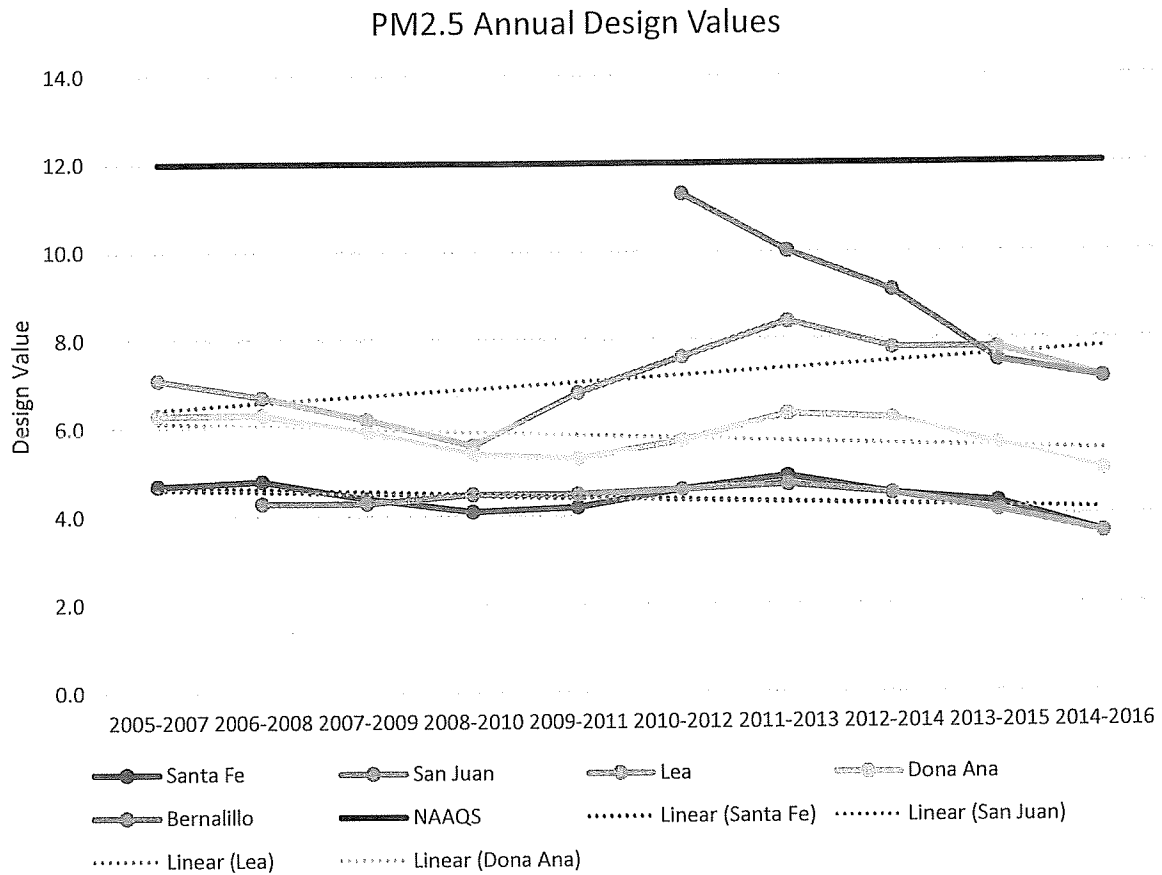


Figure 2

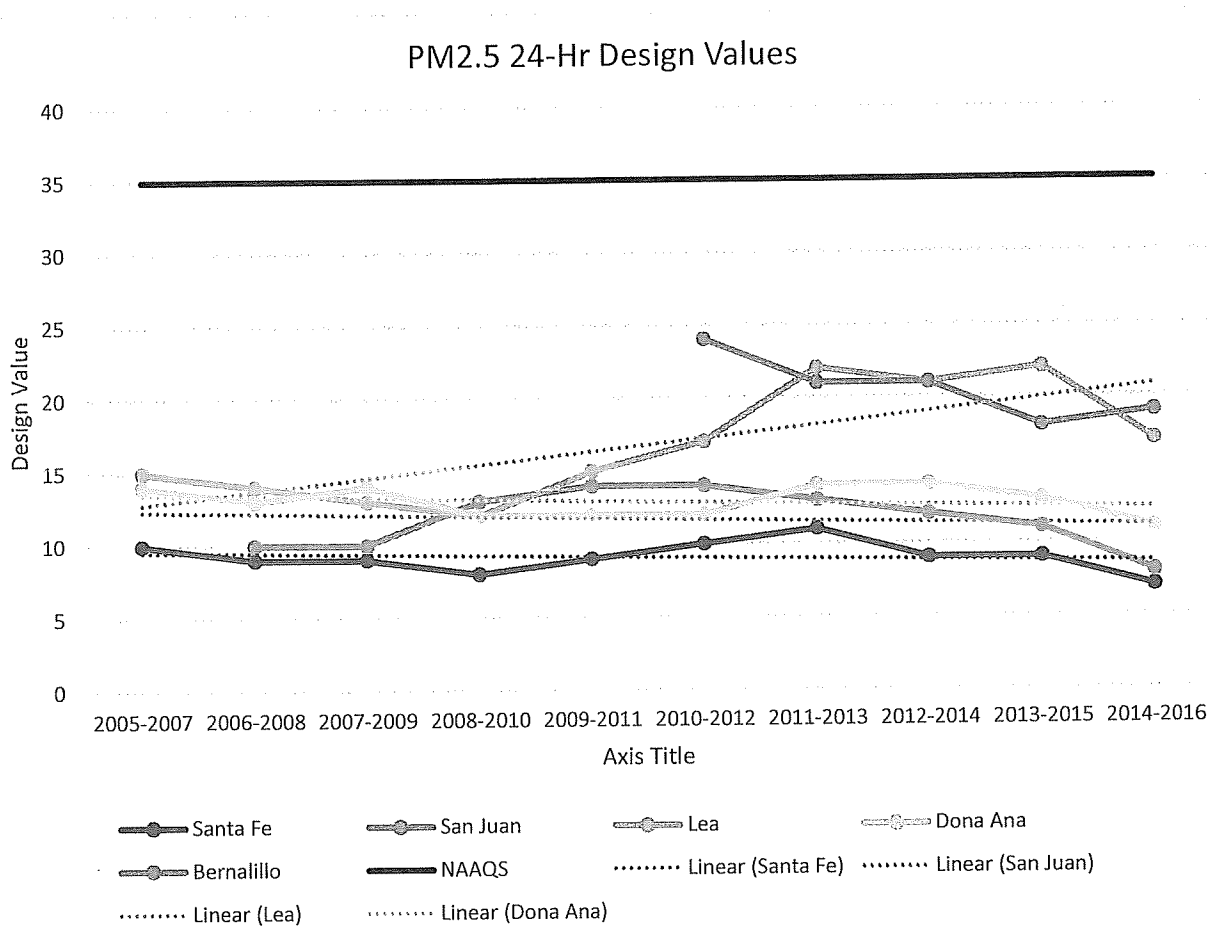
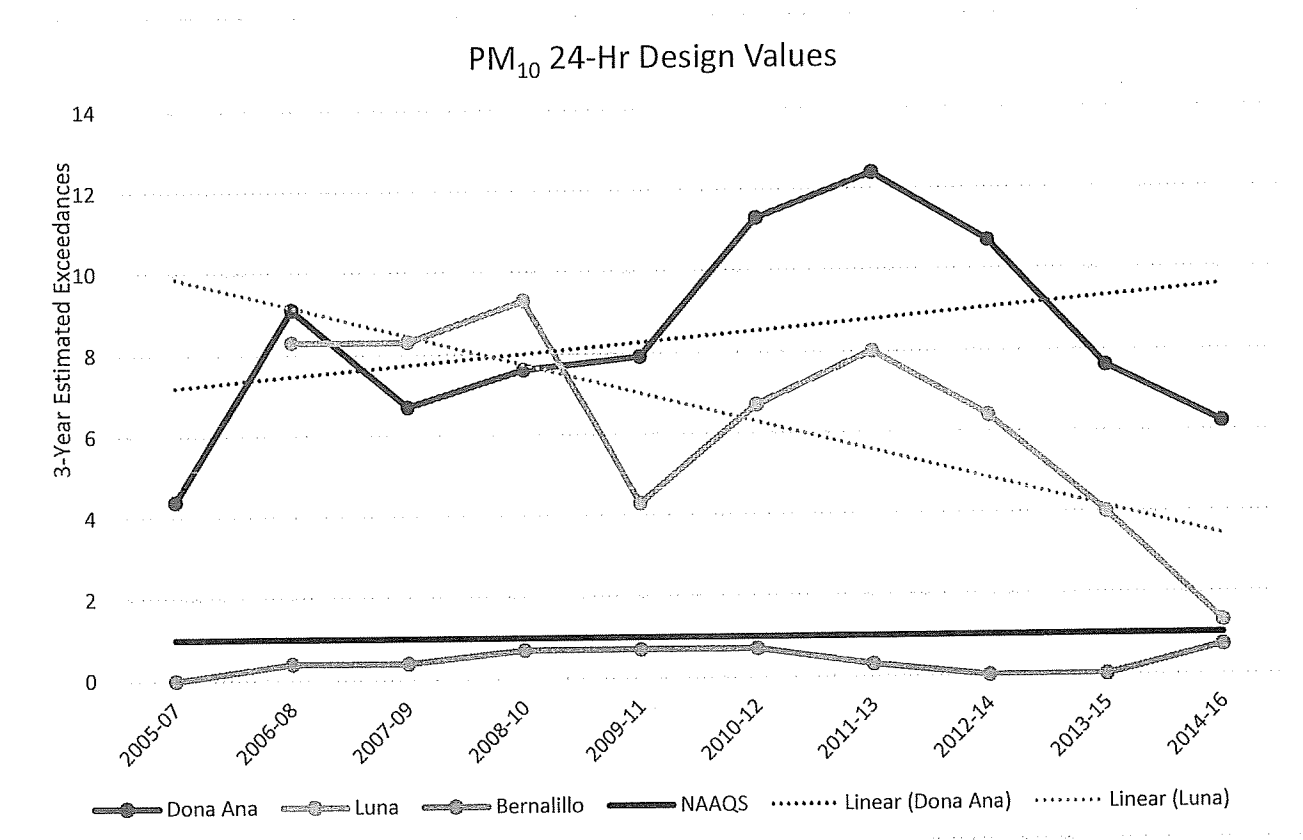


Figure 3



**Air Quality Bureau's Responses to Comments Received on 3/12/18 from EPA, Regarding Draft 110(l) Demonstration for proposed repeal of 20.2.20 NMAC, *Lime Manufacturing Plants – Particulate Matter*.**

**Comment 1a.** Will the permit conditions contained in the current active air permit for the Lhoist facility, which are linked to/based on the current Part 20 requirements, “live on” and remain enforceable following a repeal of Part 20?

**AQB Response:**

Yes, the permit conditions that control emissions of particulate matter will “live on” after Part 20 is repealed. Permit condition #1(d) stipulates that: “the hydrated lime production rate shall not exceed 25 tons per hour.” This rate will be unaffected by the repeal. Also, permit condition #2(a), shown below, sets specific emission rates for PM<sub>10</sub>, TSP, CaO and Ca(OH)<sub>2</sub> that are enforceable without any reliance upon Part 20. 20.2.72.210 NMAC, *Permit Conditions*, stipulates that: “The contents of the application specifically identified by the department shall become terms and conditions of the permit or permit revision.” Therefore, the Department can set any reasonable permit conditions upon a source. “Any term or condition imposed by the department on a permit or permit revision is enforceable to the same extent as a regulation of the board.” (20.2.72.210.D NMAC). This condition is not reliant upon Part 20.

The other relevant permit condition is #1(e), which states that: “This facility is subject to 20 NMAC 2.20 and shall comply with Section(s) 109 B and 111, 112, and 113.” With the elimination of Part 20, these references would no longer refer to existing requirements for lime hydrating plants. However, Permit condition #1(e) subjecting Lhoist to requirements in Section(s) 109B, 111, 112 and 113 will still apply just as if Part 20 were never repealed. This is because enforcement actions rely upon the version of the rule or permit that a source was subject to at the time the permit was issued, even if the rule has been repealed or amended since then. In addition, as illustrated in Table 2 of the Draft 110(l) Demonstration, there are other protections unaffected by the repeal that can serve the same or similar functions as Part 20. If the permit is modified in the future, demonstration of compliance with NAAQS will be required in accordance with 20.2.72 NMAC.

**NSR Permit No. 1652-M2****CONDITIONS** (p. 2)

1. Modification and Operation (p. 2)

2. Emission Rates (p. 4)

The facility shall not exceed the emission rates for PM<sub>10</sub> & TSP including CaO and Ca(OH)<sub>2</sub> as specified by the table below:

Unit #	Control	Mfg.	Ducted Unit's	lb/hr	tpy
505	Baghouse	WAM M# FJA-135	500, 501, 502, 502A, 503, 503B, 504, 507, 507A, 508, 509, 531, & 553	0.1	0.413
522	Baghouse	Mikro-pulse M# 144S1020B	514, 517, 518, 519, 520, 526, & 528	0.8	3.4
534	Baghouse	Mikro-pulse M#ICI	529, 530, 532, 535, 537, 538, 562, 563, 564, 571, 572, 577, 579, 580, 583 & 584	0.2226	1.0
542	Baghouse	WAM M# FJA-135	539, 540, 541, 545, 561, 567 & 568	0.1	0.4
548	Baghouse	Midwest Intl. MV-75-3	546, 551, & 552	0.1	0.413
558	Baghouse	Midwest Intl. MV-75-3	547, 555, 556, 557, & 585	0.1	0.413
565	Baghouse	Mikro-pulse	539, 540, 541, 545, 561, 567, & 568	0.15	0.65
581	Baghouse		573, 574, 575, 576, & 578	1.9	8.1233
598	Baghouse	WAM M# FJA-135	503A, 510, 511, 512, 553, & 570	0.1	0.413
610	Baghouse		551 & 552	0.1	0.413
<b>Totals</b>				<b>3.7</b>	<b>15.64</b>

**Comment 1b.** If the source were to want to remove or modify these permit conditions in the future (after the underlying rule was repealed), the source would be subject to the applicable permitting requirements to make that change to their permit – including the NAAQS compliance demonstration requirement, correct?

**AQB Response**

Yes. Should Lhoist apply for a permit revision in response to the repeal of 20.2.20 NMAC (e.g., to remove Permit Condition #1(e) which cites to 20.2.20.109.B, 111, 112, & 113 NMAC), 20.2.72 NMAC requires that the applicant show compliance with the NAAQS. In addition, their Permit Condition #1(f), states that: “Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification. . . of this permit.” Therefore, a repeal of 20.2.20 NMAC would not enable emissions from the facility to interfere with attainment or maintenance of the NAAQS.

**Comment 2.** Could we set up a time to discuss Table 2, which is contained in the current draft 110(l) demonstration? I don’t anticipate a lengthy discussion and want to just get a better understanding of the information contained in the table and how it fits into the 110(l) demonstration.

**AQB Response**

AQB discussed this issue with EPA on 3/13/18. EPA requested clarification regarding the use of the word “backstop” (found on page 5 of the Draft 110(l) Demonstration) in reference to the “Protections Unaffected by Repeal” listed in column three of Table 2 of the Draft 110(l) Demonstration. There could be some confusion by using this term when some of the State standards are more restrictive than the Federal standards due to the remand by the Court of Appeals (e.g. 20.2.20.109.A NMAC). However, if Part 20 is repealed, ambient air quality will continue to be protected by 20.2.72 NMAC, *Construction Permits*, NSPS Subpart HH and NESHAP Subpart AAAAAA, which serve as a “backstop”. To avoid any confusion, AQB agrees to remove the word “backstop” from the Draft 110(l) Demonstration.

**Air Quality Bureau's Response to Comments Received on 5/10/18 from EPA, Regarding Draft 110(l) Demonstration for proposed repeal of 20.2.20 NMAC, *Lime Manufacturing Plants – Particulate Matter*.**

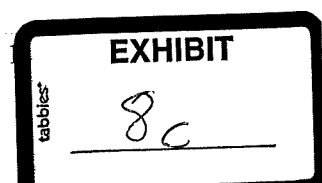
**Comment**

I have double-checked with the folks in the Planning and Monitoring sections and no significant comments on the 110(l) discussion were received. That said, John Walser did share a document that was put together as a 110(l) demonstration for the TSP repeal, which had additional discussion regarding the Anthony nonattainment area. I would suggest for consistency sake, you could pull in some of the additional language that was included in the TSP demo document that elaborates on the sources identified as contributors. This aids in making the case that the repeal of the lime manufacturing plan rule will not impact the nonattainment area.

**AQB Response:**

Thank you for your comments. Please find the revised 110(l) Demonstration (including referenced regulatory compliance discussion) attached. Both your March 12th comments (attached) and these May 10th comments have been addressed in the revised draft, shown in 'redline-strikeout' format.

May 31, 2018





## ATTACHMENT B

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- 2) *A regulatory compliance discussion demonstrating compliance with 20 NMAC 2.20 Lime Manufacturing Plants - Particulate Matter Sections 109B, 111, 112, 113 and 114. The application correctly identifies 2.20 as an applicable requirement, but does not include compliance discussion as specified in 20 NMAC 2.72 203 A.4.*

Regulation 20 NMAC 2.20.109.B. notes "the owner or operator of a new lime manufacturing plant shall not permit, cause, suffer, or allow emissions of particulate matter to the atmosphere to... exceed 0.15 pounds per ton of lime feed to any lime hydrator." [11/30/95]

As is noted in Table A-1 of the permit application, the emission factors used for Item 26 (loading from belt feeder FD-001 [Unit 514] to premixer MX-001 [Unit 518]) are 0.0054 and 0.0025 pounds per ton for total suspended particulate (TSP) and particulate matter less than ten microns (PM<sub>10</sub>), respectively. Also as noted in Table A-1 of the application, the emission factors used for Item 28 (loading from premixer MX-001 [Unit 518] to seasoning chamber MX-002 [Unit 520]) are 0.0020 and 0.0010 for TSP and PM<sub>10</sub>, respectively. The lime is hydrated in the premixer and the seasoning chamber, though the seasoning chamber acts as the official hydrator.

As these emission factors are less than the 0.15 pounds per ton noted in the regulation, CLC's Belen facility is in compliance with this regulation.

Regulation 20 NMAC 2.20.111 notes "Any person owning or operating a lime manufacturing plant shall equip and maintain all crushers, screens or other size classification units, hoppers and chutes with: A. Systems of enclosures, dust suppressant sprays and other measures as necessary to prevent the release of particulate matter emissions to the atmosphere; or B. Equip such process units with hoods, fans and fabric filters, wet scrubbers or other collection and control systems approved by the Department as at least as effective to reduce particulate matter emissions to the atmosphere." [11/30/95]

The equipment at the Belen facility is enclosed and all emissions are routed to baghouses. Thus, CLC's Belen facility is in compliance with this regulation.

Regulation 20 NMAC 2.20.112 notes "The owner or operator of lime manufacturing plants shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere from a lime kiln or lime hydrator except through stacks equipped with sampling ports and platforms in such number, location and size to allow accurate sampling to be performed." [11/30/95]

Emissions from the seasoning chamber (hydrator) are routed to a baghouse. The stack on the baghouse/fan unit is equipped to allow accurate sampling and has been tested to show

compliance with previous NMED-AQB permits. Thus, CLC's Belen facility is in compliance with this regulation.

Regulation *20 NMAC 2.20.113* notes "Compliance with Sections 109 and 110 of this part shall be determined consistent with the method for manual stack testing set forth by the US EPA at 40 CFR, Part 60, Appendix A, Methods 1 through 5, or any other method receiving prior approval from the Department. Upon request of the Department, the owner or operator of lime manufacturing plants shall perform stack testing according to the method stated above and report the results of such test in the format and time period specified by the Department. The owner or operator shall inform the Department of the dates and times of such testing so that the Department may have opportunity to have an observer present during the testing." [11/30/95]

CLC's Belen facility has submitted stack-testing results, which satisfied NMED-AQB requirements in the past, and will continue to meet the requirements of this regulation. Thus, the facility is in compliance with this regulation.

Regulation *20 NMAC 2.20.114* notes "the owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow operation of the new lime manufacturing plant unless the plant is equipped with continuous monitoring systems as specified in 40 CFR, Part 60, Subpart HH, Section 60.343." [11/30/95]

Per *40 CFR 60.340(a)*, "the provisions of this subpart are applicable to each rotary lime kiln used in the manufacture of lime." Per *40 CFR 60.343(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." *40 CFR 60.343(b)* and *(c)* also refer to rotary lime kilns.

CLC does not operate a kiln at the Belen facility; therefore, this regulation does not apply.

**20 NMAC 2.20 LIME MANUFACTURING PLANTS - PARTICULATE MATTER [11/30/1995]**

## Air Quality Bureau

# LIME MANUFACTURING PLANTS - PARTICULATE MATTER -- 20NMAC 2.20

Statutory Authority: Environmental Improvement Act, NMSA 1978, Section 74-1-8(A)(4) and (7), and Air Quality Control Act, NMSA 1978, Sections 74-2-1 et seq., including specifically, Section 74-2-5(A), (B) and (C)

Effective Date of Latest Revision: 11/30/95



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NEW MEXICO ENVIRONMENTAL IMPROVEMENT BOARD  
P. O. BOX 26110/1190 ST. FRANCIS DRIVE  
SANTA FE, NM 87502-0110

TITLE 20 ENVIRONMENTAL PROTECTION  
CHAPTER 2 AIR QUALITY (STATEWIDE)  
PART 20 LIME MANUFACTURING PLANTS - PARTICULATE MATTER

100. ISSUING AGENCY: Environmental Improvement Board. [11-30-95]

101. SCOPE: All geographic areas within the jurisdiction of the Environmental Improvement Board. [11-30-95]

102. STATUTORY AUTHORITY: Environmental Improvement Act, NMSA 1978, Section 74-1-8(A)(4) and (7), and Air Quality Control Act, NMSA 1978, Sections 74-2-1 et seq., including specifically, Section 74-2-5(A), (B) and (C). [11-30-95]

103. DURATION: Permanent. [11-30-95]

104. EFFECTIVE DATE: November 30, 1995. [11-30-95]

105. OBJECTIVE: The objective of this Part is to establish particulate matter emission standards for lime manufacturing plants. [11-30-95]

106. AMENDMENT AND SUPERSESION OF PRIOR REGULATIONS: This Part amends and supersedes Air Quality Control Regulation ("AQCR") 509 - Lime Manufacturing Plants - Particulate Matter last filed November 21, 1978. [11-30-95]

A. All references to AQCR 509 in any other rule shall be construed as a reference to this Part. [11-30-95]

B. The amendment and supersession of AQCR 509 shall not affect any administrative or judicial enforcement action pending on the effective date of such amendment nor the validity of any

permit issued pursuant to AQCR 509. [11-30-95]

107. DEFINITIONS: In addition to the terms defined in Part 2 - Definitions, as used in this Part: [11-30-95]

A. "Commenced" means that an owner or operator has undertaken a continuous program of construction or that an owner or operator has entered into a binding contractual obligation to undertake and complete within a reasonable time a continuous program of construction. [11-30-95]

B. "Existing lime manufacturing plant" means any plant that produces lime by calcination that was constructed and operational, or at which construction was commenced, prior to May 3, 1977, and includes all crushers, conveyors, screens and other size-classification units, hoppers, chutes and kilns. [11-30-95]

C. "Lime" means the product of the calcination process and includes, but is not limited to, calcitic lime, dolomitic lime, and dead burned dolomite. [11-30-95]

D. "Lime hydrator" means a unit used to produce hydrated lime. [11-30-95]

E. "Modification" means a physical change or change in the manner of operation which increases the amount of any air contaminant emitted by the lime manufacturing plant or which results in the emission of any air contaminant not previously emitted. [11-30-95]

F. "New lime manufacturing plant" means any plant that produces lime by calcination at which construction or modification was commenced on or after May 3, 1977, and includes all crushers, conveyors, screens and other size-classification units, hoppers, chutes and kilns. New lime manufacturing plant also includes any plant which produces hydrated lime, the construction or modification of which was commenced on or after May 3, 1977. [11-30-95]

G. "Opacity" means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. [11-30-95]

H. "Part" means an air quality control regulation under Title 20, Chapter 2 of the New Mexico Administrative Code, unless otherwise noted; as adopted or amended by the Board. [11-30-95]

I. "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce lime from limestone by calcination. [11-30-95]

108. DOCUMENTS: Documents cited in this Part may be viewed at the New Mexico Environment Department, Air Quality Bureau, Runnels Building, 1190 Saint Francis Drive, Santa Fe, NM 87505. [11-30-95]

109. EMISSIONS LIMITATIONS - NEW PLANT: The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere to:

A. Exceed 0.30 pounds per ton of limestone feed, or exhibit ten percent opacity or greater, from any lime kiln; or

B. Exceed 0.15 pounds per ton of lime feed to any lime hydrator. [11-30-95]

110. EMISSIONS LIMITATIONS - EXISTING PLANT: The owner or operator of an existing lime manufacturing plant shall not

permit, cause, suffer or allow emissions of particulate matter to the atmosphere to exceed 10 pounds per hour from any rotary lime kiln. [11-30-95]

111. EMISSION CONTROLS: Any person owning or operating a lime manufacturing plant shall equip and maintain all crushers, screens or other size-classification units, hoppers and chutes with:

A. Systems of enclosures, dust suppressant sprays and other measures as necessary to prevent the release of particulate matter emissions to the atmosphere; or

B. Equip such process units with hoods, fans, and fabric filters, wet scrubbers or other collection and control systems approved by the Department as at least as effective to reduce particulate matter emissions to the atmosphere. [11-30-95]

112. STACK REQUIREMENTS: The owner or operator of lime manufacturing plants shall not permit, cause, suffer or allow emissions of particulate matter to the atmosphere from a lime kiln or lime hydrator except through stacks equipped with sampling ports and platforms in such number, location and size to allow accurate sampling to be performed. [11-30-95]

113. STACK TESTING: Compliance with Sections 109 and 110 of this Part shall be determined consistent with the method for manual stack testing set forth by the US EPA at 40 CFR, Part 60, Appendix A, Methods 1 through 5, or any other method receiving prior approval from the Department. Upon request of the Department, the owner or operator of lime manufacturing plants shall perform stack testing according to the method stated above and report the results of such tests in the format and time period specified by the Department. The owner or operator shall inform the Department of the dates and times of such testing so that the Department may have opportunity to have an observer present during testing. [11-30-95]

114. CONTINUOUS EMISSION MONITORS - NEW PLANTS: The owner or operator of a new lime manufacturing plant shall not permit, cause, suffer or allow operation of the new lime manufacturing plant unless the plant is equipped with continuous monitoring systems as specified in 40 CFR, Part 60, Subpart HH, Section 60.343. [11-30-95]



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*This page last updated 10/7/96*

Questions or comments? Send e-mail to [Cecil Severs@nmenv.state.nm.us](mailto:Cecil_Severs@nmenv.state.nm.us)

40 CFR PART 60 SUBPART HH [7/1/1999]



(3) Method 20 shall be used to determine the nitrogen oxides, sulfur dioxide, and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen. The NO<sub>x</sub> emissions shall be determined at each of the load conditions specified in paragraph (c)(2) of this section.

(d) The owner or operator shall determine compliance with the sulfur content standard in § 60.333(b) as follows: ASTM D 2880-71 shall be used to determine the sulfur content of liquid fuels and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for the sulfur content of gaseous fuels (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 approval of the Administrator.

(e) To meet the requirements of § 60.334(b), the owner or operator shall use the methods specified in paragraphs (a) and (d) of this section to determine the nitrogen and sulfur contents of the fuel being burned. The analysis 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.

(f) 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. These factors are developed for each gas turbine model they manufacture in terms of combustion inlet pressure, ambient air pressure, ambient air humidity, and ambient air temperature. They shall be substantiated with data and must be approved for use by the Administrator before the initial performance test required by § 60.8. Notices of approval of custom ambient

condition correction factors will be published in the FEDERAL REGISTER.

[54 FR 6675, Feb. 14, 1989, as amended at 54 FR 27016, June 27, 1989].

### 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  $\pm 250$  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  $\pm 5$  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  $\pm 5$  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 is greater than 30 percent below the rate 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]

**§ 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 (g/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 (453.6 g/lb).

(2) Method 5 shall be used at negative-pressure fabric filters and other types of control devices and Method 5D shall be used as 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]

### 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.

(e) *Other lead-emitting operation* means any lead-acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under subpart L of this part.

(f) *Paste mixing facility* means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

(g) *Three-process operation facility* means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.







[6560-01]

## Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL  
PROTECTION AGENCY

## SUBCHAPTER C—AIR PROGRAMS

[EPL 835-2]

PART 60—STANDARDS OF PERFOR-  
MANCE FOR NEW STATIONARY  
SOURCES

## Lime Manufacturing Plants

AGENCY: Environmental Protection  
Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule establishes standards of performance which limit emissions of particulate matter from new, modified, and reconstructed lime manufacturing plants. The standards implement the Clean Air Act and are based on the Administrator's determination that lime manufacturing plant emissions contribute significantly to air pollution. The intended effect of setting these standards is to require, new, modified, and reconstructed lime manufacturing plants to use the best demonstrated system of continuous emission reduction.

EFFECTIVE DATE: March 7, 1978.

ADDRESSES: A support document entitled, "Standard Support and Environmental Impact Statement, Volume II: Promulgated Standards of Performance for Lime Manufacturing Plants" (EPA-450/2-77-007b), October 1977, has been prepared and is available. This document includes summary economic and environmental impact statements as well as EPA's responses to the comments on the proposed standards. Also available is the supporting volume for the proposed standards entitled, "Standard Support and Environmental Impact Statement, Volume I: Proposed Standards of Performance for Lime Manufacturing Plants" (EPA-450/2-77-007a), April 1977. Copies of these documents can be ordered by addressing a request to the EPA Library (MD-35), Research Triangle Park, N.C. 27711. The title and number for each or both of the documents should be specified when ordering. These documents as well as copies of the comment letters responding to the proposed rulemaking published in the FEDERAL REGISTER on May 3, 1977 (42 FR 22506) are available for public inspection and copying at the U.S. Environmental Protection Agency, Public Information Reference Unit (EPA Library), Room 2922, 401 M Street SW., Washington, D.C. 20460.

FOR FURTHER INFORMATION  
CONTACT:

Don R. Goodwin, Director, Emission

Standards and Engineering Division (MD-13), Environmental Protection Agency, Research Triangle Park, N.C. 27711, telephone 919-541-5271.

## SUPPLEMENTARY INFORMATION:

There are two minor changes in the standards from those proposed on May 3, 1977. The first of these is the specific exclusion of lime production units at kraft pulp mills [§60.340(b)]. Emission standards for kraft pulp mills were proposed in the FEDERAL REGISTER on September 24, 1976, which cover emissions from the lime production units at these mills.

The second change is the addition of §60.344(c) (Test methods and procedures). The addition recommends a testing technique which would more accurately test exhaust gases from hydrators in those cases where high moisture content is a problem.

During the 60-day comment period following publication of the proposed emission standards in the FEDERAL REGISTER on May 3, 1977, 23 comment letters were received, 10 from industry, 7 from State or local pollution control agencies, and 6 from other government agencies. In addition, on June 16, 1977, a public meeting was held at the EPA facility at Research Triangle Park, N.C., that provided an opportunity for oral presentations and comments on the standards. None of the comments warranted a change of the emission standards nor did any comments justify any significant changes in the standards support document.

Major comments focused on three areas: (1) criticism of the testing procedures and the supporting emission data, (2) the opacity standard, and (3) the requirement for continuous monitoring. These and other comments are summarized and addressed in Volume II of the standards support document.

The most significant of the three areas of comments was the questioning of the testing procedures and the data base. More specifically, it was asserted that when data were gathered upon which to base the standard, standard testing procedures were not followed in every case, which consequently biased the data. A careful review of the procedures and the resulting data revealed that, although there were minor miscalculations, the errors did not affect the emission standards that were set.

The opacity standard (10 percent), was questioned because it was thought to be too stringent and in a range where observer error would result in unfair violation decisions. A review of the opacity data indicated that of the 1,056 six-minute averages of opacity, less than one percent exceeded the visible emission level of 10 percent, thus EPA considers the 10 percent opacity standard reasonable. As for observer error, as indicated in the introduction to Reference Method 9

(Part 60, Appendix A), the accuracy of the method and any potential error must be taken into account when determining possible violations of the standards.

Some commenters questioned the requirement for continuous monitoring of multiple stack baghouses, believing it to be unnecessary and excessively expensive to place a monitor on each stack. In establishing the continuous monitoring requirement, it was not the intention of EPA that emission monitors be installed at each stack at a multiple stack baghouse. The proposed regulation has been revised to reflect this intent. It is believed that in most cases one monitor, or two in certain situations, can be installed to simultaneously monitor emissions from several stacks. With such a monitoring system, the plant must demonstrate that representative emissions are monitored on a continuous basis.

It should be noted that standards of performance for new sources established under section 111 of the Clean Air Act reflect the degree of emission limitation achievable through application of the best adequately demonstrated technological system of continuous emission reduction (taking into consideration the cost of achieving such emission reduction, any nonair quality health and environmental impact and energy requirements). State implementation plans (SIPs) approved or promulgated under section 110 of the Act, on the other hand, must provide for the attainment and maintenance of national ambient air quality standards (NAAQS) designed to protect public health and welfare. For that purpose, SIPs must in some cases require greater emission reductions than those required by standards of performance for new sources. Section 173 of the Act requires, among other things, that a new or modified source constructed in an area which exceeds the NAAQS must reduce emissions to the level which reflects the "lowest achievable emission rate" for such category of source. In no event can the emission rate exceed any applicable standard of performance.

A similar situation may arise when a major emitting facility is to be constructed in a geographic area which falls under the prevention of significant deterioration of air quality provisions of the Act (part C). These provisions require, among other things, that major emitting facilities to be constructed in such areas are to be subject to best available control technology for all pollutants regulated under the Act. The term "best available control technology" (BACT), as defined in section 169(3), means "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results

from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of 'best available control technology' result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act."

Standards of performance should not be viewed as the ultimate in achievable emission control and should not preclude the imposition of a more stringent emission standard, where appropriate. For example while cost of achievement may be an important factor in determining standards of performance applicable to all areas of the country (clean as well as dirty), statutorily, costs do not play such a role in determining the "lowest achievable emission rate" for new or modified sources locating in areas violating statutorily-mandated health and welfare standards. Although there may be emission control technology available that can reduce emissions below those levels required to comply with standards of performance, this technology might not be selected as the basis of standards of performance due to costs associated with its use. This in no way should preclude its use in situations where cost is a lesser consideration, such as determination of the "lowest achievable emission rate."

In addition, States are free under section 116 of the Act to establish even more stringent emission limits than those established under section 111 or those necessary to attain or maintain the NAAQS under section 110. Thus, new sources may in some cases be subject to limitations more stringent than EPA's standards of performance under section 111, and prospective owners and operators of new sources should be aware of this possibility in planning for such facilities.

**MISCELLANEOUS:** The effective date of this regulation is March 7, 1978. Section 111(b)(1)(B) of the Clean Air Act provides that standards of performance or revisions of them become effective upon promulgation and apply to affected facilities, construction or modification of which was commenced after the date of proposal (May 3, 1977).

**NOTE.**—The Environmental Protection Agency has determined that this document does not contain a major proposal requiring an Economic Impact Analysis under Executive Orders 11821 and 11949 and OMB Circular A-107.

Dated: March 1, 1978.

DOUGLAS M. COSTLE,  
Administrator.

Part 60 of Chapter I of Title 40 of the Code of Regulations is amended as follows:

1. By adding subpart HH as follows:

**Subpart HH—Standards of Performance for Lime Manufacturing Plants**

Sec.

60.340 Applicability and designation of affected facility.

60.341 Definitions.

60.342 Standard for particulate matter.

60.343 Monitoring of emissions and operations.

60.344 Test methods and procedures.

**AUTHORITY:** Sec. 111 and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7411, 7601), and additional authority as noted below.

§ 60.340 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lime: rotary lime kilns and lime hydrators.

(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 part.

§ 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 subpart A of this part.

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

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

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime product from limestone by calcination.

(d) "Lime hydrator" means a unit used to produce hydrated lime 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:

(1) From any rotary lime kiln any gases which:

(i) Contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).

(ii) Exhibit 10 percent opacity or greater.

(2) From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).

§ 60.343 Monitoring of emissions and operations.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in paragraph (b) 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 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, and operate 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  $\pm 250$  pascals (one inch of water).

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

(c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate.

(2) A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within  $\pm 10$  percent over its normal operating range.

(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 limestone feed to any affected rotary lime

## RULES AND REGULATIONS

kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within  $\pm 5$  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 six-minute periods during which the average opacity of the plume from any lime kiln subject to paragraph (a) of this subpart is 10 percent or greater.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

§60.344 Test methods and procedures.

(a) Reference methods in Appendix A of this part, except as provided

under §60.8(b), shall be used to determine compliance with §60.322(a) as follows:

(1) Method 5 for the measurement of particulate matter,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for velocity and volumetric flow rate,

(4) Method 3 for gas analysis,

(5) Method 4 for stack gas moisture, and

(6) Method 9 for visible emissions.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m<sup>3</sup>/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

(c) Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position following the test runs.

(Sec. 114 of the Clean Air Act, as amended (42 U.S.C. 7414).)

[FR Doc. 78-5974 Filed 3-6-78; 8:48 am]

# ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Part 60

[AD-FRL 2506-0]

### Standards of Performance for New Stationary Sources; Lime Manufacturing Plants

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** Amendments to the standards of performance for lime manufacturing plants were proposed in the Federal Register on September 2, 1982 (47 FR 38832). This action promulgates the amendments to the standards of performance for lime manufacturing plants, which were proposed on May 3, 1977. The standards apply to new, modified, and reconstructed rotary kilns for which construction was commenced after May 3, 1977. These standards implement Section 111 of the Clean Air Act and are based on a determination that lime manufacturing plants cause or contribute significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. The intended effect of these standards is to require all new, modified, and reconstructed rotary kilns in lime manufacturing plants to control emission to the level achievable through use of the best demonstrated system of continuous emission reduction, considering costs, nonair quality health and environmental impacts, and energy requirements.

**EFFECTIVE DATE:** April 26, 1984.

Under Section 307(b)(1) of the Clean Air Act, judicial review of this new source performance standard is available only by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under Section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings initiated to enforce these requirements.

**ADDRESSES:** *Background Information Document.* The background information document (BID) for the promulgated standards may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone number (919) 541-2777. Please refer to "Lime Manufacturing Plants—Background Information for Promulgated Standards" (EPA-450/3-84-008). The BID contains (1) a summary

of all the public comments made on the proposed amended standards along with responses to the comments, and (2) a summary of the changes made to the standards since proposal.

*Docket.* Docket number A-80-53, containing information considered in development of the promulgated standards, is available for public inspection between 8:00 a.m. and 4:00 p.m., Monday through Friday, at EPA's Central Docket Section (LE-131), West Tower Lobby, Gallery 1, 401 M Street, SW., Washington, D.C. 20460. A reasonable fee may be charged for copying.

**FOR FURTHER INFORMATION CONTACT:** Mr. Robert Ajax, Standards Development Branch, Emission Standards and Engineering Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5624.

#### SUPPLEMENTARY INFORMATION:

##### Background

New source performance standards for lime manufacturing plants were proposed on May 3, 1977. Final rules were promulgated on March 7, 1978. As promulgated, standards of performance for lime manufacturing plants limited particulate matter emissions from rotary lime kilns to no greater than 0.15 kilogram per megagram (kg/Mg) [0.30 pound per ton (lb/ton)] of limestone feed. The opacity of the exhaust gases from rotary lime kilns was limited to less than 10 percent. The particulate matter emission limit for any lime hydrator was 0.075 kg/Mg (0.15 lb/ton) of limestone feed.

The National Lime Association (NLA) filed a petition for review of the standards with the United States Court of Appeals for the District of Columbia Circuit. On May 19, 1980, the Court of Appeals remanded the standard. *National Lime Association v. EPA*, 627 F.2d 416 (D.C. Cir. 1980).

Following review of the standards, a response to the Court remand and a rule change were proposed in the Federal Register (47 FR 38832) on September 2, 1982. The proposed amendments to the standards raised the level of the emission limit for particulate emissions from rotary lime kilns from 0.15 kg/Mg (0.30 lb/ton) to 0.30 kg/Mg (0.60 lb/ton) of limestone feed. The visible emission limit for rotary lime kilns remained at 10 percent opacity. Finally, the emission limit for lime hydrators was deleted.

The proposed remand response clarified that although wet scrubbers were a demonstrated technology for control of rotary lime kiln emissions,

they were not best demonstrated technology. Compared to the performance of fabric filters and ESP's, wet scrubber performance is more sensitive to variations in inlet dust concentration and particle size. In addition, the annual operating costs for a wet scrubber are significantly greater than those for a fabric filter or ESP designed to comply with the new source performance standards. This finding does not preclude the use of wet scrubbers because owners and operators of rotary kilns regulated by the standards may use control devices of their own choosing to comply with the standards.

#### The Final Amendments

In response to public comments, changes have been made to the proposed amendments. The most significant changes are to the visible emission standard and the continuous monitoring requirement. The rationale for the changes is discussed in the Section entitled "Significant Comments and Changes to the Proposed Amendment."

The promulgated amendments apply the standards to new, modified, or reconstructed rotary lime kilns for which construction was commenced after May 3, 1977. Existing rotary lime kilns are not subject to the regulation unless modified or reconstructed (as defined in 40 CFR 60.14, or 60.15). The numerical emission limits of the promulgated standards reflect the performance of fabric filters and ESP's, which are considered best demonstrated technology for control of particulate matter emissions for rotary lime kilns. The promulgated standards limit emissions of particulate matter from each rotary lime kiln to 0.30 kg/Mg (0.60 lb/ton) of limestone feed. In addition, the definition of limestone feed is expanded to include the weight of iron-oxide additives used in the production of iron-bearing lime. The visible emission limit for rotary lime kilns is increased from 10 percent to 15 percent opacity.

For positive-pressure fabric filters, the promulgated standards permit the use of certified visible emission observers to monitor the opacity of exhaust gases from rotary lime kilns in lieu of continuous opacity monitoring. Visible emission observations, taken in accordance with Reference Method 9, must occur during normal operation of the rotary lime kiln, at least once per day of operation. Because a Reference Method 9 test is the method used to determine compliance with the control device visible emission standard, reports of such test from positive-

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pressure fabric filters may be used to determine compliance with the control device visible emission standard. For negative-pressure fabric filters, however, continuous opacity monitors continue to be required.

Excess emission reports will be required on a semi-annual basis rather than on a quarterly basis.

#### Summary of Environmental, Energy, and Economic Impacts

In remanding the new source performance standards in lime manufacturing plants, the Court did not question the original analysis of economic, energy, or environmental impacts. ["Standards Support and Environmental Impact Statement, Volume I: Proposed Standards of Performance for Lime Manufacturing Plants" (EPA-450/2-77-007a)]. These impacts were discussed during the original rulemaking and are still considered valid.

#### Public Participation

To provide interested persons the opportunity for oral presentation of data, views, and arguments concerning the proposed amendments, a public hearing was held on November 18, 1982, at Research Triangle Park, North Carolina. The hearing was open to the public, and each attendee was given an opportunity to comment on the proposed amendments. Eleven speakers presented comments. The public comment period for written comments extended from September 2, 1982, to December 20, 1982. Thirteen written comments were received. The oral and written comments have been considered, and, where appropriate, changes have been made to the proposed amendments.

#### Significant Comments and Changes to the Proposed Amendments

Comments on the proposed amendments were received from industry representatives, their trade association, and one individual. A detailed discussion of these comments and responses can be found in the background information document (BID) for the promulgated amendments referenced in the ADDRESSES section of this preamble. The summary of comments and responses in the BID serves as the basis for the changes that have been made to the proposed amendments. The major comments and responses are summarized in this preamble under the following headings: Rotary Lime Kiln Opacity Standard, Applicability Date, and Continuous Monitoring Requirement.

#### Rotary Lime Kiln Opacity Standard

The majority of the lime industry's oral and written comments reflect their concern that the 10 percent visible emission limit for rotary lime kilns was not achievable. One commenter discussed his theory that unique properties of particulate matter generated in the lime kiln create hydrate particles prior to the fabric filter inlet. The commenter concludes that the hydrate particles will cause long-term variations in opacity of emissions at the fabric filter outlet, and a visible emission standard of 20 percent opacity should account for this variability. Another commenter asserted that the data used to develop the visible emission limit are invalid because the mass emission test data from Plants B, C, D, and E (which were taken simultaneously with the opacity data) are flawed. Consequently, the commenter believes these data do not demonstrate the achievability of the mass emission limit or the visible emission limit. Five commenters stated that they had test data that demonstrated that the visible emission limit was not achievable.

The commenter's study of rotary lime kiln dynamics does provide an indication that hydrate particles are formed prior to the fabric filter inlet. The study does not, however, include any data about particle characteristics or concentration at the fabric filter outlet. Nor does it include any Reference Method 9 data to substantiate the validity of informally-recorded visible emission observations made at the fabric filter outlet. The absence of these types of data does not, in itself, invalidate the commenter's theory or conclusion. However, existing fabric filter theory and studies have demonstrated that particle characteristics and concentrations at fabric filter outlets are invariant over a broad range of fabric filter inlet particle characteristics and concentrations. Furthermore, the extensive data base supporting the visible emission standard (discussed below) covers the range of particle characteristics, concentrations, and kiln operations expected in the industry and demonstrates the achievability of a standard more stringent than that suggested by the commenter.

Moreover, while the commenter's study was being performed, the fabric filter controlling emissions from the kiln under study by the commenter was operated at air flows ranging from 27 to 62 percent greater than design values. This causes actual air-to-cloth ratios to be higher than design values. Thus, the bag filter will be under greater stress

than that for which it was designed, and uncaking may occur, thereby resulting in an actual control efficiency that is less than the design control efficiency.

The acceptability of mass emission data from Plants B, C, D, and E was not at issue in the Court remand. It is important to note, however, that the acceptance of emission test data does not imply that the tests are completely free of minor errors. With the multiplicity of parameters, procedures, and physical tolerances used in each test, seldom is any test free of minor errors. This is the case with several of the tests in the data base supporting the mass emission limit. As explained in detail in the background information document, however, these minor errors are not significant, and they do not affect the accuracy or reliability of the mass emission test results. Therefore, both the mass emission data and the visible emission data are valid and support the promulgated amendments to the existing standard.

Of the five commenters who said they had data demonstrating that the visible emission limit was unachievable, none submitted the data during the public hearing or the public comment period. Written requests for Reference Method 9 visible emission data were sent to these commenters, but no data were received. One commenter submitted photographs of plumes and mass emission test data (some of which were collected in accordance with Reference Method 5) to illustrate visible emission problems with two fabric filters that control emissions from three rotary lime kilns. Although the kilns and fabric filters were not designed to meet the existing new source performance standards, the mass emission data indicated an emission rate substantially below the mass emission limit included in the standards. The opacity of the visible emissions, however, cannot be determined with accuracy from these photographs, and no Reference Method 9 visible emissions data were gathered to quantify the opacity of the visible emissions from these rotary lime kilns.

However, if the facility described above were subject to new source performance standards and experienced difficulty in complying with the visible emission limit for rotary lime kilns, a remedy is available if certain conditions are met. Section 60.11(e) of the General Provisions of 40 CFR Part 60, which applies to all standards of performance, ensures that this facility would be treated equitably. This provision may be used to obtain an individual visible emission limit tailored to the unique circumstances of a specific facility. To

obtain this standard, the affected facility must demonstrate with a performance test that it meets the mass emission limit; that the facility and associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance test; that the performance test was performed under conditions approved by the Administrator; and that the facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard. The requirements of § 60.11(e) can be accomplished during the original compliance test. An individual visible emission limit is automatically approved upon demonstration of compliance with the above criterion and imposes no costs beyond those of the performance test.

In responding to the comments on the proposed visible emission limit, over 1,200 Reference Method 9 6-minute averages from six rotary lime kiln control device exhaust stacks used to develop this limit were reviewed. The review indicates that the data cover the variation of particle characteristics and normal operation likely to be found in the industry. These data were gathered simultaneously with Reference Method 5 mass emission tests and include runs where the mass emission level was as high as 0.29 kg/Mg (0.58 lb/ton). More than 71 percent of the Reference Method 9 visible emission data exhibit normalized opacities of 0 percent and 99.7 percent exhibit normalized opacities of less than 10 percent. The highest raw opacity data point was 6.7 percent, and only 4 of the over 1,200 data points exceeded 10 percent after normalization to a 3.0-meter stack diameter, with 10.6 percent as the maximum value. This data base differs in one respect from the data base on which the proposed visible emission standard was based. The one difference is that the data base now includes data submitted to the Agency in October 1983 by the Tenn-Luttrell Lime Company. The Tenn-Luttrell data show that the NSPS mass emission limit was achieved but that there were two 6-minute average opacities at 10.6 percent. On the basis of available data, including that from Tenn-Luttrell, and to ensure that the visible emission limit is achievable, the standard has been revised from 10 percent to 15 percent opacity.

#### Applicability Date

Several lime manufacturing companies commented that the applicability date for the new source performance standards should be

September 2, 1982, rather than May 3, 1977. These commenters believe that because there have been two proposals, the first of which is over 5 years old, and because the standard has been remanded, Section 111(a)(2) of the Clean Air Act requires that the applicability date be that of the later proposal. One commenter also argues that because wet scrubbers are not considered to be best demonstrated technology, maintaining the earlier date penalizes a company that must install venturi scrubbers because of space limitations. The commenter, therefore, asks that the promulgated amendments not apply to their wet scrubbers, which are being installed because of limited space.

Section 111(a)(2), of the Clean Air Act clearly states that "new sources" subject to new source performance standards are those sources which commence construction or modification after proposal of a standard of performance. New source performance standards for lime manufacturing plants were proposed on May 3, 1977 (42 FR 22506), and sources constructed or modified after that date are, therefore, new sources subject to the standard.

The fact that standards are remanded does not exempt those sources constructed or modified prior to the proposed remand response. *United States v. City of Painesville*, 644 F.2d 1186 (6th Cir. 1981), cert. den. 102 S.Ct. 392 (1981). Similarly, revision of standards to more accurately reflect the performance of best demonstrated technology in response to a remand does not exempt sources. See, *Portland Cement Association v. Train*, 513 F.2d 506 (D.C. Cir. 1975), cert. den. 423 U.S. 1025 (1975). Finally, the fact that promulgation is delayed until well after the original proposal does not, in itself, exempt sources. See, *Commonwealth of Pennsylvania v. EPA*, 618 F.2d 991, 1000 (3rd Cir. 1980). (See docket entry IV-B-4 for further discussion.)

An investigation of the rotary lime kilns and wet scrubbers installed at the plant citing space limitations reveals that the standards have not imposed any penalties. The costs of installing and operating the venturi scrubbers at this plant were actually less than those estimated and published with the proposed standards of performance. The relevant question, however, to answer in responding to this comment is whether limited space required the installation of wet scrubbers. Because the length of the new kilns installed at this plant was greater than the available space between the feedstock and product handling areas, the product handling area was moved to accommodate the

new kilns and control devices. However, the product handling area was moved only far enough to accommodate wet scrubbers. If the handling area had been moved further, either fabric filters or ESP's could have been installed. Thus, even though the decision to install wet scrubbers may have been reasonable from the plant's point of view, wet scrubbers were not the only devices that could have been installed. In sum, a subcategory of sources that must install scrubbers and for which the standard would not reflect BDT does not exist.

#### Continuous Monitoring Requirement

Several lime companies believe that transmissometers (required for visible emission monitoring) are unreliable and inaccurate. A representative from one lime company cited problems with an early type of transmissometer known as a Bailey Balometer. Representatives from another company cited problems with the instrument that records transmissometer readings to emphasize their belief that the monitoring system is unreliable.

Available information and data, however, demonstrate the reliability and accuracy of transmissometers for negative-pressure fabric filters over extended periods of time. These include extended service in environments such as portland cement kiln and boiler exhaust gas streams. The data indicate that, as long as the transmissometers were installed and monitored according to Performance Specification 1 contained in 40 CFR Part 60 Appendix B, reliability and accuracy were excellent.

The Bailey Balometer referred to by one commenter does not meet this performance specification and, thus, should not be installed to comply with the opacity monitoring requirements. After talking with representatives of the company experiencing data recording problems, these problems were traced to the choice of an inappropriate transmission frequency, which resulted in interference from other nearby equipment.

Transmissometers, however, are not practicable for positive-pressure fabric filters. There are technical problems with operating a single transmissometer to monitor the opacity of visible emissions exiting from these fabric filters. Since installation of transmissometers for each exit port of a positive-pressure fabric filter is economically unreasonable, another visible emission monitoring approach has been selected for these fabric filters. The final amendments permit positive-pressure fabric filters to be inspected visually during normal operation on a

daily basis and visible emission observations to be recorded (according to the procedures of Reference Method 9) for three 6-minute periods for each exit port exhibiting any visible emissions. Production rates within 10 to 15 percent of design capacity are considered to be normal operation. Because a Reference Method 9 test is the method used to determine compliance with the control device visible emission standard, reports of such tests from positive-pressure fabric filters may be used to determine compliance with the control device visible emission standard. This amendment does not apply to facilities using negative-pressure fabric filters or ESP's. These facilities must continue to install, operate, and maintain transmissometers.

#### Information Requirements Impacts

The regulation will require no reports in addition to those required under the General Provisions of 40 CFR Part 60, except for those related to wet scrubber pressure drop and liquid flow rate, which are required in lieu of the visible emission requirements at facilities controlled by other types of equipment. The General Provisions contain notification requirements, which enable the Agency to keep abreast of facilities subject to the regulation; they contain requirements for the conduct and reporting of initial performance tests; and they require quarterly reports of excess emissions. However, excess emission reports will be required on a semi-annual basis rather than the quarterly basis specified in the General Provisions. Analysis of these reporting requirements indicates that they are both necessary and reasonable considering the savings in time and resources required for effective enforcement. In the absence of these reporting requirements, effective enforcement of the regulation would require frequent individual inspections and tests.

Information collection requirements associated with this regulation (those included in 40 CFR Part 60, Subparts A and HH) have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* and have been assigned OMB Control Number 2060-0063.

#### Regulatory Flexibility Analysis

This standard was proposed before January 1, 1981, and therefore is not

subject to the requirements of the Regulatory Flexibility Act. This action, however, will not have significant impacts on small entities because it is a technical amendment to a standard that simply makes that standard conform to the capabilities of the control technologies on which the standard was based. In addition, it is less restrictive than the original proposal.

#### Docket

The docket is an organized and complete file of all the information considered in the development of this rulemaking. The docket is a dynamic file, because material is added throughout the rulemaking development. The docket system is intended to allow members of the public and industries involved in the rulemaking to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards and responses to significant comments, the contents of the docket will serve as the record in case of judicial review, except for interagency review materials (Section 307(d)(7)(A)).

#### Miscellaneous

The effective date of this regulation is April 26, 1984. Section 111 of the Clean Air Act provides that standards of performance of revisions thereof become effective upon promulgation and apply to affected facilities, construction or modification of which was commenced after the date of proposal.

The promulgation of these standards was preceded by a determination that these sources contribute significantly to air pollution which may reasonably be anticipated to endanger public health or welfare (42 FR 22510, May 3, 1977). In addition, publication of these promulgated standards was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies in accordance with Section 117.

This regulation will be reviewed 4 years from the date of promulgation as required by the Clean Air Act. This review will include an assessment of such factors as the need for integration with other programs, the existence of alternative methods, enforceability, improvements in emission control technology, and reporting requirements.

Section 317 of the Clean Air Act requires the Administrator to prepare an economic impact assessment of "revisions (of new source performance

standards) which the Administrator determines to be substantial \* \* \* [Section 317(a)]. This amendment is not substantial because it is a technical adjustment that simply makes the standard conform to the capabilities of the control technologies on which the original standard was based. Therefore, no economic impact assessment of the proposed amendment has been prepared. The Administrator prepared an economic analysis of the standard in the original rulemaking. The economic impacts are essentially as described in the original economic analysis. ["Standards Support and Environmental Impact Statement, Volume I: Proposed Standards of Performance for Lime Manufacturing Plants" (EPA-450/2-77-007a)]. However, the cost effectiveness of compliance with the final rotary kiln particulate matter mass emission standard has been evaluated. The incremental cost effectiveness of compliance with the NSPS instead of with a typical State implementation plan is \$360/ton for a typical rotary kiln.

Under Executive Order 12291, a regulation considered "major" is subject to the requirement of a Regulatory Impact Analysis. This regulation is not "major" because: (1) The national annualized compliance costs, including capital charges resulting from the standards, total less than \$100 million; (2) the amended standards do not cause a major increase in prices or production costs; and (3) the standards do not cause significant adverse effects on domestic competition, employment, investment, productivity, innovation, or competition in foreign markets. This regulation was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291.

#### List of Subjects in 40 CFR Part 60

Air pollution control, Aluminum, Ammonium sulfate plants, Asphalt, Cement industry, Coal, Copper, Electric power plants, Glass and glass products, Grains, Intergovernmental relations, Iron, Lead, Metals, Metallic minerals, Motor vehicles, Nitric acid plants, Paper and paper products industry, Petroleum, Phosphate, Sewage disposal, Steel, Sulfuric acid plants, Waste-treatment and disposal, Zinc, Tires, Incorporation by reference, Can surface coating, Sulfuric acid plants, Industrial organic chemicals, Organic solvent cleaners, Fossil fuel-fired steam generators, Fiberglass insulation, Synthetic fibers, Lime.

Dated: April 13, 1984.  
William D. Ruckelshaus,  
Administrator.

## Regulation

### PART 60—[AMENDED]

Subpart HH, Part 60 of Chapter I, Title 40 of the Code of Federal Regulations is revised to read as follows:

#### § 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.

(Sec. 114, Clean Air Act, as amended (42 U.S.C. 7414))

#### § 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.

(Sec. 114, Clean Air Act, as amended (42 U.S.C. 7414))

#### § 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 using a positive-pressure fabric filter control device subject to the provisions of this subpart may, in lieu of the continuous 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 and record three Method 9 tests on the gases discharged into the atmosphere.

(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  $\pm 250$  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  $\pm 5$  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  $\pm 5$  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 is greater than 30 percent below the rate established during the performance test. Reports of excess emissions recorded during observations made as required by § 60.344(c) shall be submitted semi-annually.

(Sec. 114, Clean Air Act, as amended (42 U.S.C. 7414))

(Approved by the Office of Management and Budget under Control Number 2060-0039)

#### § 60.344 Test methods and procedures.

(a) Reference methods in Appendix A of this part, except as provided under § 60.8(b), shall be used to determine compliance with § 60.342(a) as follows:

(1) Method 1 for sample and velocity traverses;

(2) Method 2 for velocity and volumetric flow rate;

(3) Method 3 for gas analysis;

(4) Method 4 for stack gas moisture;

(5) Method 5 or 5D for the measurement of particulate matter; and

(6) Method 9 for visible emissions.

(b) For Method 5 or 5D, the sampling time for each run shall be at least 60 minutes, and the sampling rate shall be at least 0.85 std m<sup>3</sup>/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

(c) Visible emission observations of positive-pressure fabric filters shall occur during normal operation of the rotary lime kiln, at least once per day of operation. For at least three 6-minute periods, the opacity shall be recorded and maintained for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded and maintained. These observations shall be taken in accordance with Method 9. Records shall be maintained of any 6-minute average that is in excess of the emissions limit specified in § 60.342(a) of this subpart.

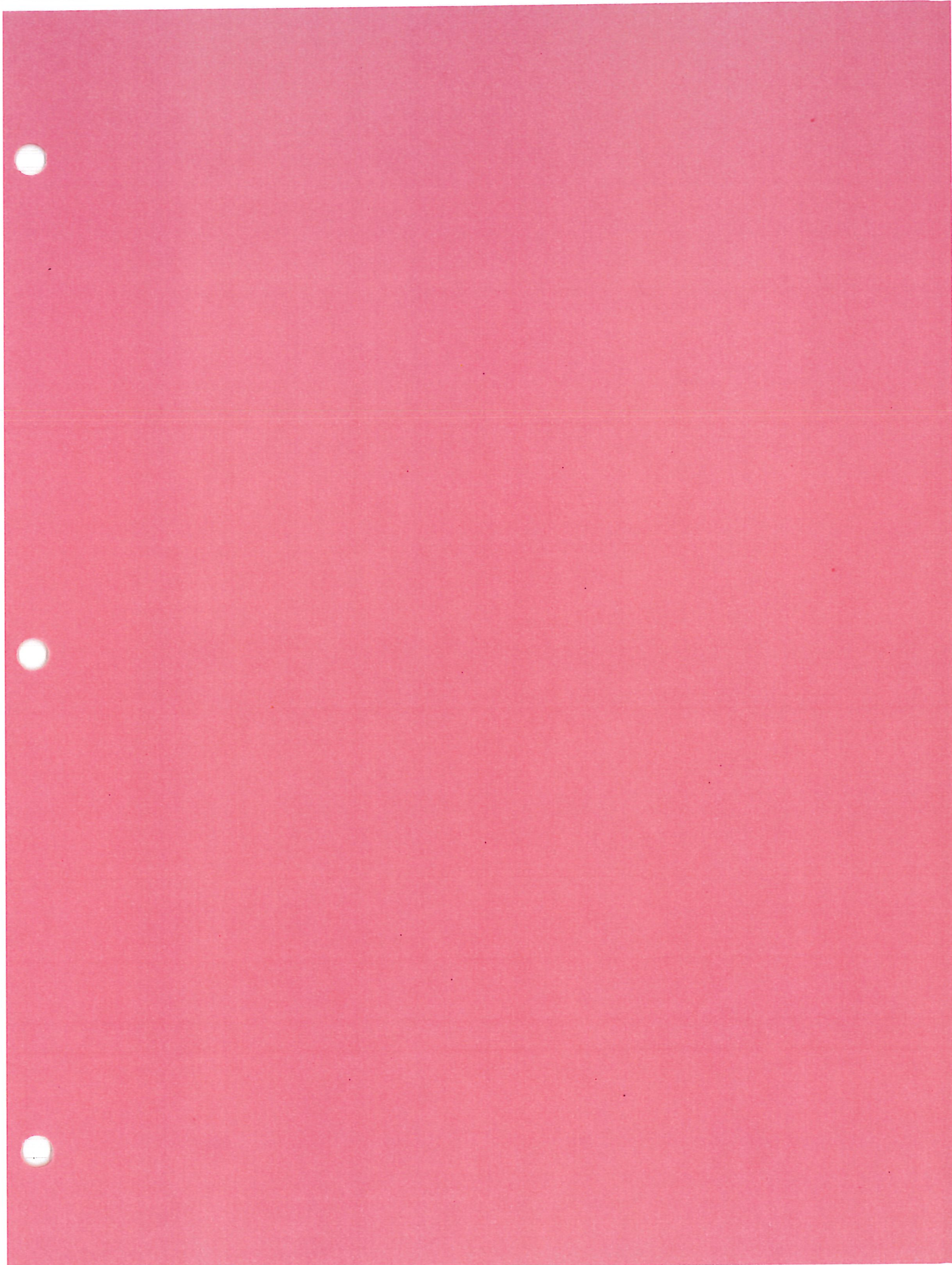
(Sec. 114, Clean Air Act, as amended (42 U.S.C. 7414))

(Approved by the Office of Management and Budget under Control Number 2060-0063)

[FR Doc. 84-11318 Filed 4-25-84; 8:45 am]

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# Federal Register

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January 5, 2004

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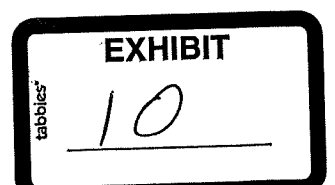
## Part II

### Environmental Protection Agency

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40 CFR Part 63

National Emission Standards for  
Hazardous Air Pollutants for Lime  
Manufacturing Plants; Final Rule





# ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Part 63

[Docket ID No. OAR-2002-0052; FRL-7551-7]

RIN 2060-AG72

## National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This action promulgates national emission standards for hazardous air pollutants (NESHAP) for the lime manufacturing source category. The lime manufacturing emission units regulated will include lime kilns, lime coolers, and various types of processed stone handling (PSH) operations. The EPA has identified the lime manufacturing industry as a major source of hazardous air pollutant (HAP) emissions including, but not limited to, hydrogen chloride (HCl), antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, and selenium. Exposure to these substances has been demonstrated to cause adverse health effects such as cancer; irritation of the lung, skin, and mucus membranes; effects on the central nervous system; and kidney damage. The final NESHAP will require all major sources subject to the rule to meet HAP emission standards reflecting the application of maximum achievable control technology (MACT). Implementation of the final NESHAP will reduce non-volatile and semi-volatile metal HAP emissions from the lime manufacturing industry source category by approximately 6.5 tons per year (tpy) and will reduce emissions of particulate matter (PM) by 5,900 tpy.

**EFFECTIVE DATE:** January 5, 2004.

**ADDRESSES:** *Docket.* The EPA has established an official public docket for this action including both Docket ID No. OAR-2002-0052 and Docket ID No. A-95-41. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. All items may not be listed under both docket numbers, so interested parties

should inspect both docket numbers to ensure that they have received all materials relevant to the final rule. The official public docket is available for public viewing at the EPA Docket Center (Air Docket), EPA West, Room B-102, 1301 Constitution Avenue, NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

**FOR FURTHER INFORMATION CONTACT:** For further information concerning applicability and rule determinations, contact the appropriate State or local agency representative. For information concerning analyses performed in developing the final NESHAP, contact Keith Barnett, U.S. EPA, Emission Standards Division, Minerals and Inorganic Chemicals Group, C504-05, Research Triangle Park, North Carolina 27711, (919) 541-5605, [barnett.keith@epa.gov](mailto:barnett.keith@epa.gov).

**SUPPLEMENTARY INFORMATION:** *Docket.* The EPA has established an official public docket for this action including both Docket ID No. OAR-2002-0052 and Docket ID No. A-95-41. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. All items may not be listed under both docket numbers, so interested parties should inspect both docket numbers to ensure that they have received all materials relevant to the final rule. Although a part of the official public docket, the public docket does not include Confidential Business Information or other information whose disclosure is restricted by statute. The docket is a dynamic file because information is added throughout the rulemaking process. The docketing system is intended to allow members of the public and industries involved to easily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated standards and their preambles, the contents of the docket, excluding interagency review materials, will serve as the record in the case of judicial review. (See section 307(d)(7)(A) of the Clean Air Act

(CAA).) The regulatory text and other materials related to this rulemaking are available for review in the docket, or copies may be mailed from the Air Docket on request by calling (202) 566-1742. A reasonable fee may be charged for copying docket materials. *Electronic Access.* You may access this **Federal Register** document electronically through the EPA Internet under the "Federal Register" listings at <http://www.epa.gov/fedrgstr/>. An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to access the index of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select "search," then key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA dockets. Information claimed as confidential business information (CBI) and other information whose disclosure is restricted by statute, which is not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. The EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed, paper form in the official public docket. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified in this document.

*Worldwide Web (WWW).* In addition to being available in the docket, an electronic copy of today's final NESHAP will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of this action will be posted on the TTN's policy and guidance page for final rules at <http://www.epa.gov/ttn/oarpg>. The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541-5384.

*Regulated Entities.* Categories and entities potentially regulated by this action include:

Category	NAICS	Examples of regulated entities
	32741	Commercial lime manufacturing plants.
	33111	Captive lime manufacturing plants at iron and steel mills.
	3314	Captive lime manufacturing plants at nonferrous metal production facilities.



Category	NAICS	Examples of regulated entities
	327125	Producers of dead-burned dolomite (Non-clay refractory manufacturing).

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.7081 of the final NESHAP. If you have any questions regarding the applicability of this action to a particular entity, consult the technical contact person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

**Judicial Review.** The NESHAP for Lime Manufacturing were proposed in December 20, 2002 (67 FR 78046). This action announces EPA's final decisions on the NESHAP. Under section 307(b)(1) of the CAA, judicial review of the final NESHAP is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by March 5, 2004. Under section 307(d)(7)(B) of the CAA, only an objection to a rule or procedure raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by the final NESHAP may not be challenged separately in any civil or criminal proceeding brought to enforce these requirements.

**Outline.** The information presented in this preamble is organized as follows:

#### I. Introduction

- A. What Is the Purpose of the Final NESHAP?
- B. What Is the Source of Authority for Development of NESHAP?
- C. What Criteria Are Used in the Development of NESHAP?
- D. How Was the Final NESHAP Developed?
- E. What Are the Health Effects of the HAP Emitted From the Lime Manufacturing Industry?
- F. What Are Some Lime Manufacturing Industry Characteristics?
- G. What Are the Processes and Their Emissions at a Lime Manufacturing Plant?

#### II. Summary of the Final NESHAP

- A. What Lime Manufacturing Plants Are Subject to the Final NESHAP?
- B. How Do We Define the Affected Source and What Emissions Units Are Included?
- C. What Pollutants Are Regulated by the Final NESHAP?
- D. What Are the Emission Limits and Operating Limits?
- E. When Must I Comply With the Final NESHAP?
- F. How Do I Demonstrate Initial Compliance With the Final NESHAP?

- G. How Do I Continuously or Periodically Demonstrate Compliance With the Final NESHAP?
- H. How Do I Determine if My Lime Manufacturing Plant Is a Major Source and Thus Subject to the Final NESHAP?
- III. Summary of Changes Since Proposal
- IV. Summary of Environmental, Energy and Economic Impacts
  - A. How Many Facilities Are Subject to the Final NESHAP?
  - B. What Are the Air Quality Impacts?
  - C. What Are the Water Impacts?
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  - E. What Are the Energy Impacts?
  - F. What Are the Cost Impacts?
  - G. What Are the Economic Impacts?
- V. Responses To Major Comments
- VI. Statutory and Executive Order Reviews
  - A. Executive Order 12866, Regulatory Planning and Review
  - B. Paperwork Reduction Act
  - C. Regulatory Flexibility Analysis
  - D. Unfunded Mandates Reform Act
  - E. Executive Order 13132, Federalism
  - F. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments
  - G. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks
  - H. Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
  - I. National Technology Transfer and Advancement Act
  - J. Congressional Review Act

#### I. Introduction

##### A. What Is the Purpose of the Final NESHAP?

The purpose of the final NESHAP is to protect the public health by reducing emissions of HAP from lime manufacturing plants.

##### B. What Is the Source of Authority for Development of NESHAP?

Section 112(c) of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. We listed Lime Manufacturing in the category of major sources on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit, considering controls, 10 tpy or more of any one HAP or 25 tpy or more of any combination of HAP.

##### C. What Criteria Are Used in the Development of NESHAP?

Section 112(d) of the CAA requires that we establish NESHAP for the control of HAP from both new and

existing major sources. The CAA requires NESHAP to reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator of EPA determines has been adequately demonstrated. This level of control is commonly referred to as MACT.

The CAA further provides that MACT standards must attain at least a minimum level of stringency, known as the MACT floor. The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing 5 sources for categories or subcategories with fewer than 30 sources) for which the Agency has emissions information.

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost of achieving the emissions reductions, any health and environmental impacts, and energy requirements.

##### D. How Was the Final NESHAP Developed?

We used several resources to develop the final NESHAP, including questionnaire responses from industry, emissions test data, site surveys of lime manufacturing facilities, operating and new source review permits, permit applications, and comments on the proposed rule. We researched the relevant technical literature and existing State and Federal regulations and

consulted and met with representatives of the lime manufacturing industry, State and local representatives of air pollution agencies, Federal agency representatives (e.g., United States Geological Survey) and emission control and emissions measurement device vendors in developing the final NESHAP. We also conducted an extensive emissions test program. Industry representatives provided emissions test data, arranged site surveys of lime manufacturing plants, participated in the emissions test program, reviewed draft questionnaires, provided information about their manufacturing processes and air pollution control technologies, and identified technical and regulatory issues. State representatives provided existing emissions test data, copies of permits and other information.

#### *E. What Are the Health Effects of the HAP Emitted From the Lime Manufacturing Industry?*

The HAP emitted by lime manufacturing facilities include, but are not limited to, HCl, antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, and selenium. Exposure to these compounds has been demonstrated to cause adverse health effects when present in concentrations higher than those typically found in ambient air.

We have detailed data on each of the currently operating facilities for emissions of HCl. Human exposures to ambient levels of HCl resulting from lime manufacturing facilities' emissions were estimated by industry as part of the risk assessment they conducted for purposes of demonstrating, pursuant to section 112(d)(4) of the CAA, that HCl emissions from lime kilns are below the threshold level of adverse effects, within an ample margin of safety.

We do not have the type of current detailed data on each of the facilities that will be covered by the final NESHAP, and the people living around the facilities, that will be necessary to conduct an analysis to determine the actual population exposures to the metals HAP emitted from these facilities and the potential for resultant health effects. Therefore, we do not know the extent to which the adverse health effects described below occur in the populations surrounding these facilities. However, to the extent the adverse effects do occur, the final NESHAP will reduce emissions and subsequent exposures.

The HAP that will be controlled with the final NESHAP are associated with a variety of adverse health effects, including chronic health disorders (e.g.,

irritation of the lung, skin, and mucus membranes; effects on the central nervous system; cancer; and damage to the kidneys), and acute health disorders (e.g., lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified three of the HAP—arsenic, chromium, and nickel—as human carcinogens and three others—beryllium, cadmium, and lead—as probable human carcinogens.

#### *F. What Are Some Lime Manufacturing Industry Characteristics?*

There are approximately 70 commercial and 40 captive lime manufacturing plants in the U.S., not including captive lime manufacturing operations at pulp and paper production facilities. About 30 of the captive plants in the U.S. produce lime that is used in the beet sugar manufacturing process, but captive lime manufacturing plants are also found at steel, other metals, and magnesia production facilities. Lime is produced in about 35 States and Puerto Rico by about 47 companies, which include commercial and captive producers (except for lime manufacturing plants at pulp and paper production facilities), and those plants which produce lime hydrate only.

#### *G. What Are the Processes and Their Emissions at a Lime Manufacturing Plant?*

There are many synonyms for lime, the main ones being quicklime and its chemical name, calcium oxide. High calcium lime consists primarily of calcium oxide, and dolomitic lime consists of both calcium and magnesium oxides. Lime is produced via the calcination of high calcium limestone (calcium carbonate) or other highly calcareous materials such as aragonite, chalk, coral, marble, and shell; or via the calcination of dolomitic limestone. Calcination occurs in a high temperature furnace called a kiln, where lime is produced by heating the limestone to about 2000° F, driving off carbon dioxide in the process. Dead-burned dolomite is a type of dolomitic lime produced to obtain refractory characteristics in the lime.

The kiln is the heart of the lime manufacturing plant, where various fossil fuels (such as coal, petroleum coke, natural gas, and fuel oil) are combusted to produce the heat needed for calcination. There are five different types of kilns: rotary, vertical, double-shaft vertical, rotary hearth, and fluidized bed. The most popular is the rotary kiln, but the double-shaft vertical kiln is an emerging new kiln technology

gaining in acceptance because of its energy efficiency. Rotary kilns may also have preheaters associated with them to improve energy efficiency. As discussed further in this preamble, additional energy efficiency is obtained by routing exhaust from the lime cooler to the kiln, a common practice. Emissions from lime kilns include, but are not limited to, metallic HAP, HCl, PM, sulfur dioxide, nitrogen oxides, and carbon dioxide. These emissions predominately originate from compounds in the limestone feed material and fuels (e.g., metals, sulfur, chlorine) and are formed from the combustion of fuels and the heating of feed material in the kiln.

All types of kilns use external equipment to cool the lime product, except vertical (including double-shaft) kilns, where the cooling zone is part of the kiln. Ambient air is most often used to cool the lime (although a few use water as the heat transfer medium), and typically all of the heated air stream exiting the cooler goes to the kiln to be used as combustion air for the kiln. The exception to this is the grate cooler, where more airflow is generated than is needed for kiln combustion, and consequently a portion (about 40 percent) of the grate cooler exhaust is vented to the atmosphere. We estimate that there are about five to ten kilns in the U.S. that use grate coolers. The emissions from grate coolers include the lime dust (PM) and the trace metallic HAP found in the lime dust.

Lime manufacturing plants may also produce hydrated lime (also called calcium hydroxide) from some of the calcium oxide (or dolomitic lime) produced. Hydrated lime is produced in a hydrator via the chemical reaction of calcium oxide (or magnesium oxide) and water. The hydration process is exothermic, and part of the water in the reaction chamber is converted to steam. A wet scrubber is integrated with the hydrator to capture the lime (calcium oxide and calcium hydroxide) particles carried in the gas steam, with the scrubber water recycled back to the hydration chamber. The emissions from the hydrator are the PM comprised of lime and hydrated lime.

Operations that prepare the feed materials and fuels for the kiln and process the lime product for shipment or further on-site use are found throughout a lime manufacturing plant. The equipment includes grinding mills, crushers, storage bins, conveying systems (such as bucket elevator, belt conveyors), bagging systems, bulk loading or unloading systems, and screening operations. The emissions from these operations include limestone

and lime dust (PM) and the trace metallic HAP found in the dust.

## II. Summary of the Final NESHAP

### *A. What Lime Manufacturing Plants Are Subject to the Final NESHAP?*

The final NESHAP will regulate HAP emissions from all new and existing lime manufacturing plants that are major sources, co-located with major sources, or are part of major sources. However, lime manufacturing plants located at pulp and paper mills or at beet sugar factories are not subject to the final NESHAP. Other captive lime manufacturing plants, such as (but not limited to) those at steel mills and magnesia production facilities, will be subject to the final NESHAP. See 67 FR 78053 explaining the basis for these determinations. We define a lime manufacturing plant as any plant which uses a lime kiln to produce lime product from limestone or other calcareous material by calcination. However, we specifically exclude lime kilns that use only calcium carbonate waste sludge from water softening processes as the feedstock. Lime product means the product of the lime kiln calcination process including calcitic lime, dolomitic lime, and dead-burned dolomite.

### *B. How Do We Define the Affected Source and What Emissions Units Are Included?*

The final NESHAP defines the affected source as follows: each lime kiln and its associated cooler, each individual PSH system. The individual types of emission units in a PSH system are conveying system transfer points, bulk loading or unloading systems, screening operations, bucket elevators, and belt conveyors—if they follow the processed stone storage bin or storage pile in the sequence of PSH operations. The materials processing operations (MPO) associated with lime products (such as quicklime and hydrated lime), lime kiln dust handling, quarry or mining operations, limestone sizing operations, and fuels are not subject to today's final NESHAP. Processed stone handling operations are further distinguished in the final NESHAP as follows: (1) Whether their emissions are vented through a stack, (2) whether their emissions are fugitive emissions, (3) whether their emissions are vented through a stack with some fugitive emissions from the partial enclosure, and/or (4) whether the source is enclosed in a building. Finally, lime hydrators and cooler nuisance dust collectors are not included under the

definition of affected source under the final NESHAP.

### *C. What Pollutants Are Regulated by the Final NESHAP?*

The final NESHAP establishes PM emission limits for lime kilns, coolers, and PSH operations with stacks. Particulate matter will be measured solely as a surrogate for the non-volatile and semi-volatile metal HAP. (Particulate matter of course is not itself a HAP, but is a typical and permissible surrogate for HAP metals. See *National Lime Ass'n v. EPA*, 233 F. 3d 625, 637–40 (D.C. Cir., 2000). The final NESHAP also regulate opacity or visible emissions from most of the PSH operations, with opacity also serving as a surrogate for non-volatile and semi-volatile HAP metals.

### *D. What Are the Emission Limits and Operating Limits?*

#### Emission Limits

The PM emission limit for the existing kilns and coolers is 0.12 pounds PM per ton of stone feed (lb/tsf) for kilns using dry air pollution control systems prior to January 5, 2004. Existing kilns that have installed and operating wet scrubbers prior to January 5, 2004 must meet an emission limit of 0.60 lb/tsf. Kilns which meet the criteria for the 0.60 lb/tsf emission limit must continue to use a wet scrubber for PM emission control in order to be eligible to meet the 0.60 lb/tsf limit. If at any time such a kiln switches to a dry control, they would become subject to the 0.12 lb/tsf PM emission limit, regardless of the type of control device used in the future. The PM emission limit for all new kilns and lime coolers is 0.10 lb/tsf. As a compliance option, these emission limits (except for the 0.60 lb/tsf limit) may be applied to the combined emissions of all the kilns and coolers (assuming the cooler(s) has a separate exhaust vent to the atmosphere) at the lime manufacturing plant. In other words, the sum of the PM emissions from all of the kilns and coolers at the lime manufacturing plant, divided by the sum of the production rates of the kilns at the existing lime manufacturing plant, will be used to determine compliance with the appropriate emission limit for kilns and coolers. If the lime manufacturing plant has both new and existing kilns and coolers, then the emission limit will be an average of the existing and new kiln PM emissions limits, weighted by the annual actual production rates of the individual kilns, except that no new kiln may exceed the PM emission level of 0.10 lb/tsf. Kilns that are required to

meet a 0.60 lb/tsf PM emission limit must meet that limit individually, and may not be included in any averaging calculations.

Emissions from PSH operations that are vented through a stack will be subject to a limit of 0.05 grams PM per dry standard cubic meter (g/dscm) PM and 7 percent opacity. Stack emissions from PSH operations that are controlled by wet scrubbers are subject to the 0.05 g/dscm but not subject to the opacity limit. Fugitive emissions from PSH operations are subject to a 10 percent opacity limit.

For each building enclosing any PSH operation, each of the affected PSH operations in the building must comply individually with the applicable PM and opacity emission limitations discussed above. Otherwise, there must be no visible emissions from the building, except from a vent, and the building's vent emissions must not exceed 0.05 g/dscm and 7 percent opacity. For each fabric filter (FF) that controls emissions from only an individual, enclosed processed stone storage bin, the opacity must not exceed 7 percent. For each set of multiple processed stone storage bins with combined stack emissions, emissions must not exceed 0.05 g/dscm and 7 percent opacity. Because the opacity requirement for PSH operations is used as an indicator that a control device is functioning properly, it is not appropriate, or meaningful, to average the opacity readings from multiple PSH operations. The final rule does not allow averaging of PSH operations.

We are not regulating HCl emissions from lime kilns in the final NESHAP. Under the authority of section 112(d)(4) of the CAA, we have determined that no further control is necessary because HCl is a "health threshold pollutant," and HCl levels emitted from lime kilns are below the threshold value within an ample margin of safety. See generally, 67 FR 78054–057. As explained there, the risk analysis sought to assure that emissions from every source in the category result in exposures less than the threshold level even for an individual exposed at the upper end of the exposure distribution. The upper end of the exposure distribution is calculated using the "high end exposure estimate," defined as a plausible estimate of individual exposure for those persons at the upper end of the exposure distribution, conceptually above the 90th percentile, but not higher than the individual in the population who has the highest exposure. We believe that assuring protection to persons at the upper end of the exposure distribution is consistent with

the "ample margin of safety" requirement in section 112(d)(4).

In the proposed rule, we published the results of the risk analysis on which we based this decision. More information on the risk analysis may be found in the published proposed rule (67 FR 78054–78057) and in the docket. We received only one comment on our risk analysis.

We also are not establishing a limit for mercury emissions from lime kilns. The only control technique would reflect control of the raw materials and/or fossil fuels. This control is not duplicable or replicable. We also determined that an emission limit for mercury based on a beyond-the-MACT-floor option is not justified after consideration of the cost, energy, and non-air environmental impacts. See 67 FR 78057 for additional discussion. We received no adverse comments on this aspect of the rule as proposed.

#### Operating Limits

For lime kilns that use a wet scrubber PM control device, you are required to maintain the 3-hour block average gas stream pressure drop across the scrubber and the 3-hour block average scrubber liquid flow rate equal to or above the levels for the parameters that were established during the PM performance test.

For kilns using a FF or electrostatic precipitator (ESP) PM control device, you must monitor opacity (as an operating limit) with a continuous opacity monitoring system (COMS). You are required to install and operate the COMS in accordance with Performance Specification 1 (PS-1), 40 CFR part 60, Appendix B, and maintain the opacity level of the lime kiln exhaust at or below 15 percent for each 6-minute block period. Facilities that installed COMS on or before February 6, 2001, should continue to meet the requirements in effect in 40 CFR part 60, Appendix B, at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

As an alternative to a COMS, lime kilns that use ESP or FF PM controls can elect to monitor PM levels with a PM detector that meets the requirements in § 63.7113(e) of the final rule. You must maintain and operate the ESP or FF such that the PM detector alarm is not activated, and the alarm condition does not exist for more than 5 percent of the operating time in each 6-month period.

For lime kilns that use a FF PM control device, you may install, maintain and operate a bag leak detection system (BLDS) as an

alternative to a COMS or PM detector. The FF must be operated and maintained so that the BLDS alarm is not activated, and an alarm condition does not exist for more than 5 percent of the operating time in each 6-month period. 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.

For PSH operation emission points subject to a PM emission limit and controlled by a wet scrubber, you are required to collect and record the exhaust gas stream pressure drop across the scrubber and the scrubber liquid flow rate during the PM performance test. You are required to continuously maintain the 3-hour average gas stream pressure drop across the scrubber and the 3-hour average scrubber liquid flow rate equal to or above the levels for the parameters that were established during the PM performance test.

You are required to prepare a written operations, maintenance, and monitoring (OM&M) plan to cover all affected emission units. The plan must include procedures for proper operation and maintenance of each emission unit and its air pollution control device(s); procedures for monitoring and proper operation of monitoring systems in order to meet the emission limits and operating limits; standard procedures for the use of a BLDS and PM detector; and corrective actions to be taken when there is either a deviation from operating limits, or when PM detector or BLDS alarms indicate corrective action is necessary.

#### *E. When Must I Comply With the Final NESHAP?*

The compliance date for existing affected sources is January 5, 2004. (Three years may be needed to install new, or retrofit existing, air pollution control equipment.) A new affected source (*i.e.*, a kiln or PSH system for which construction or reconstruction commenced after December 20, 2002) must be in compliance upon initial startup or January 5, 2007, whichever is later.

#### *F. How Do I Demonstrate Initial Compliance With the Final NESHAP?*

##### Kiln and Coolers

For the kiln and cooler PM emission limit, you must conduct a PM emissions test on the exhaust of each kiln at the lime manufacturing plant and measure the stone feed rate to each kiln during the test. Each individual kiln must meet their applicable PM emission limit

(0.10, 0.12, or 0.60 lb/tsf). Alternately, kilns subject to the 0.10 (new kilns) or 0.12 (existing kilns) lb/tsf PM emission limits are in compliance if the sum of the emissions from these kilns at the lime manufacturing plant, divided by the sum of the stone feed rates entering each of these kilns, do not exceed the applicable PM emission limit, or if the facility has both new and existing kilns, it must not exceed an average of the 0.12 and 0.10 lb/tsf PM emission limits weighted by individual kiln throughput. Kilns subject to the 0.60 lb/tsf PM emission limit can not be included in any averaging scheme. If you have a lime cooler(s) that has a separate exhaust to the atmosphere, you must conduct a PM test on the cooler's exhaust concurrently with the kiln PM test, and add the cooler emissions to the appropriate kiln emissions. For kilns with a wet scrubber, you must collect and record the applicable operating parameters during the PM performance test and then establish the operating limits based on those data.

##### Processed Stone Handling Operations

For PSH operations with stacks that are subject to PM emission limits, you are required to conduct a PM emissions test on each stack exhaust, and the stack emissions must not exceed the emission limit of 0.05 g/dscm. For PSH operations with stack opacity limits, you are required to conduct a 3-hour test on the exhaust in accordance with Method 9 in Appendix B of 40 CFR part 60, and each of the 30 consecutive, 6-minute opacity averages must not exceed 7 percent. The PSH operations controlled using wet scrubbers do not have an opacity limit, but you are required to collect and record the wet scrubber operating parameters during the PM performance test and then establish the applicable operating limits based on those data.

For PSH operations with fugitive emissions, you are required to conduct a Method 9 test, and each of the consecutive 6-minute opacity averages must not exceed the applicable opacity limit. These Method 9 tests are for 3 hours, but the test duration may be reduced to 1 hour if certain criteria are met. Lastly, Method 9 tests or visible emissions checks may be performed on PSH operations inside of buildings, but additional lighting, improved access to equipment, and temporary installation of contrasting backgrounds may be needed. For additional guidance, see page 116 of the "Regulatory and Inspection Manual for Nonmetallic Minerals Processing Plants," EPA report 305-B-97-008, November 1997.

*G. How Do I Continuously or Periodically Demonstrate Compliance With the Final NESHAP?*

**General**

You are required to install, operate, and maintain each required continuous parameter monitoring system (CPMS) such that the CPMS completes a minimum of one cycle of operation for each successive 15-minute period. The CPMS will be required to have valid data from at least three equally spaced data values for that hour during periods that it is not out of control according to your OM&M plan. To calculate the block average for each 3-hour averaging period, you must have at least two of three 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). When required, the 3-hour block average value for each operating parameter must be calculated as the average of each set of three successive 1-hour average values.

You are required to develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the general provisions in 40 CFR 63.6(e)(3).

**Kilns and Coolers**

For kilns controlled by a wet scrubber, you are required to maintain the 3-hour block average of the 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. You are also required to maintain the 3-hour block average of the scrubbing liquid flow rate greater than or equal to the flow rate operating limit established during the most recent performance test.

Sources opting to monitor PM emissions from an ESP with a PM detector in lieu of monitoring opacity are required to 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 operating time in a 6-month period. Each time the alarm sounds and the owner or operator initiates corrective actions (per the OM&M plan) within 1 hour of the alarm, 1 hour of alarm time will be counted. If inspection of the ESP demonstrates that no corrective actions are necessary, no alarm time will be counted. The sensor on the PM detection system must provide an output of relative PM emissions. The PM detection system must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level. The PM detection systems are

required to be installed, operated, adjusted, and maintained according to the manufacturer's written specifications and recommendations.

Sources opting to monitor PM emissions from a FF with a BLDS or PM detector in lieu of monitoring opacity are required to maintain and operate the FF such that the BLDS or PM detector alarm is not activated, and alarm condition does not exist for more than 5 percent of the operating time in a 6-month period. Each time the alarm sounds and the owner or operator initiates corrective actions (per the OM&M plan) within 1 hour of the alarm, 1 hour of alarm time will be counted. If inspection of the FF demonstrates that no corrective actions are necessary, no alarm time will be counted. The sensor on the BLDS is required to provide an output of relative PM emissions. The BLDS is required to have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level. The BLDS is required to be installed, operated, adjusted, and maintained in accordance with the manufacturer's written specifications and recommendations.

Standard operating procedures for the BLDS and PM detection systems must be incorporated into the OM&M plan. We recommend that for electrodynamic (or other similar technology) BLDS, the standard operating procedures include concepts from EPA's "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). This document may be found on the world wide web at [www.epa.gov/ttn/emc](http://www.epa.gov/ttn/emc).

For kilns and lime coolers monitored with a COMS, you are required to maintain each 6-minute block average opacity level at or below 15 percent opacity. For COMS installed after February 6, 2001, the COMS must be installed and operated in accordance with PS-1, 40 CFR part 60, Appendix B. Facilities that installed COMS on or before February 6, 2001, should continue to meet the requirements in effect in 40 CFR part 60, Appendix B, at the time of COMS installation unless specifically required to re-certify the COMS by their permitting authority.

**Processed Stone Handling Operations**

For stack emissions from PSH operations which are controlled by a wet scrubber, you are required to maintain the 3-hour average 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. You are required to also maintain the 3-hour average

scrubbing liquid flow rate greater than, or equal to, the flow rate operating limit established during the most recent PM performance test.

For PSH operations subject to opacity limitations that do not use a wet scrubber control device, you are required to periodically demonstrate compliance as follows. You must conduct a monthly 1-minute visible emissions check of each emissions unit in the affected source. If no visible emissions are observed in six consecutive monthly tests for any emission unit, you may decrease the frequency of testing from monthly to semiannually for that emissions unit. If visible emissions are observed during any semiannual test, you must resume testing of that emissions unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests. If no visible emissions are observed during the semiannual test for any emissions unit, you may decrease the frequency of testing from semiannually to annually for that emissions unit. If visible emissions are observed during any annual test, you must resume visible emissions testing of that emissions unit on a monthly basis and maintain that schedule until no visible emissions are observed in six consecutive monthly tests.

If visible emissions are observed during any visible emissions check, you must conduct a 6-minute test of opacity in accordance with Method 9 of appendix A to part 60 of this chapter. The Method 9 test is required to begin within 1 hour of any observation of visible emissions, and the 6-minute opacity reading must not exceed the applicable opacity limit.

*H. How Do I Determine if My Lime Manufacturing Plant Is a Major Source and Thus Subject to the Final NESHAP?*

The final NESHAP apply to lime manufacturing plants that are major sources, co-located with major sources, or are part of major sources. Each lime facility owner/operator must determine whether their plant is a major or area source since this determines whether the lime manufacturing plant is an affected source under the final NESHAP. Section 112 of the CAA defines a major source as a "stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons/yr or more of any HAP or 25 tons/yr or more of any combination of HAP." This definition requires evaluation of the facility's potential to emit all HAP from

all emission sources in making a determination of whether the source is major or area. However, based on our data analysis, HCl is most likely the HAP that will account for the largest quantity of HAP emissions from a lime manufacturing plant. Although lime manufacturing plants emit HAP metals from most of the emission units at the plant site and organic HAP from the kiln, our analysis indicates that most likely the metal and organic HAP emissions will each be well below the 10 tpy criteria.

We are requiring that all lime manufacturing facilities potentially subject to the final NESHAP demonstrate, with an emissions test, that they emit less than 10 tpy of HCl if they wish to claim area source status. We are allowing three HCl test methods to be used. These are EPA Method 320 or 321 in Appendix A to 40 CFR part 63, or ASTM Method D 6735-01. If ASTM Method D 6735-01 is used, we require that the paired-train option in section 11.2.6 and the post-test analyte spike option in section 11.2.7 be used.

### III. Summary of Changes Since Proposal

We proposed a PM standard (as a surrogate for non-mercury HAP metals) of 0.12 lb/tsf reflecting the performance of dry pollution control systems (baghouses). We also solicited comment on having a separate PM standard of 0.60 lb/tsf for kilns controlled with wet scrubbers. In the final rule, we have decided to adopt these two different standards for PM emissions from existing lime kilns. We are also indicating that existing kilns subject to the 0.60 lb/tsf PM emission limit are not to be included in any averaging scheme for demonstrating compliance with a PM standard.

In the proposed NESHAP, we required facilities using wet scrubbers to monitor scrubber pressure drop and liquid flow rate. We have written the final NESHAP to explicitly state that alternative monitoring procedures are allowed under the procedures described in 40 CFR 63.8(f). However, we do not delegate that authority.

The proposed NESHAP stated that you must install, operate, and maintain COMS as required by 40 CFR part 63, subpart A, General Provisions, and according to PS-1 in Appendix B to 40 CFR part 60. We have stated in the rule that COMS installed, relocated, or substantially refurbished after February 6, 2001, must meet the requirements of PS-1 as revised on August 10, 2000. Any COMS installed on or before February 6, 2001, should continue to meet the requirements in effect at the

time of installation unless specifically required by the local regulatory agency to re-certify the COMS in question.

In the proposed NESHAP, we required you to monitor the performance of FF with either a COMS or a PM detector. In the final NESHAP, we are allowing existing facilities to monitor FF performance using daily EPA Method 9, in Appendix A to 40 CFR part 60, visible emission readings if the facility has a positive pressure FF with multiple stacks, or if it is infeasible to install a COMS in accordance with PS-1 in Appendix B to 40 CFR part 60.

In the proposed NESHAP, we allowed three alternatives for monitoring ESP performance. These were a COMS, a PM detector, or monitoring ESP voltage and current. In the final NESHAP, we are allowing only two alternatives, a COMS or a PM detector. There are no requirements to establish ESP voltage and current operating limits.

In the proposed NESHAP, we specified that EPA Method 9 in Appendix A to 40 CFR part 60 should be used to determine opacity from fugitive emissions. We have retained this requirement in the final NESHAP, but we have added additional requirements on how EPA method 9 in Appendix A to 40 CFR part 60 should be implemented to determine fugitive visible emissions. This language was taken directly from 40 CFR 60.675(c)(1).

In the proposed NESHAP, § 63.7120(b) could be interpreted to imply that PSH operations must be continuously monitored. In the final NESHAP, PSH operations are subject to monthly (not continuous) visible emission testing.

In the proposed NESHAP, we required that lime kiln emission testing be conducted at the highest production level reasonably expected to occur. In the final NESHAP, we require that lime kilns be tested under representative operating conditions.

In the proposed NESHAP, we required reporting of deviations from operating, visible emissions, and opacity limits, including those deviations that occur during periods of startup, shutdown, or malfunction. In the final NESHAP, we require that reports are to be made in accordance with 40 CFR 63.10(d).

In the proposed NESHAP, we required testing of all kilns in order to claim area source status. In the final NESHAP, we have included a provision that allows the permitting authority to determine if idled kilns must be tested, and also to determine whether all kilns that use identical feed materials, fuels, and emission controls must still all be tested.

In the proposed NESHAP, the raw material storage bin was the first emission unit in the sequence of lime manufacturing that was part of the affected source. Materials processing operations between the storage bin and the kiln were also covered. In the final NESHAP, material stockpiles prior to the processed stone storage bin are not covered, open processed stone piles are not covered, storage bins are defined as manmade enclosures, and use the term processed stone handling operations instead of materials processing operations.

In the proposed NESHAP, we included as an affected source lime kilns that produced lime product from any calcareous substance. In the final NESHAP, we have excluded lime kilns that produce lime from water softening sludge that contain calcium carbonate.

In the proposed NESHAP, we excluded materials handling operations associated with lime product. In the final NESHAP, we have specifically stated that nuisance dust collectors are part of lime product handling systems and, therefore, are not part of the affected source.

In the proposed NESHAP, we required that facilities use rolling 3-hour averages to show compliance with wet scrubber operating limits. We noted that in the proposed rule, we did not clearly state how to calculate the rolling average. Based on compliance requirements of other NESHAP, we determined that a rolling average was not necessary to ensure compliance, but did increase the complexity of the average calculation and recordkeeping process. Therefore, in the final NESHAP, we require block 3-hour averages instead of rolling 3-hour averages, which is consistent with the requirement to use block averaging required for ESP that choose to monitor using COM.

In the proposed NESHAP, we allowed averaging among all lime kilns and coolers at existing sources, and all new lime kilns and coolers at new sources, but did not allow averaging of existing and new lime kilns and coolers together. In addition, the averaging provisions and equations applied whether or not the facility desired to average. We have written the final NESHAP to state that each individual new lime kiln and its associated cooler must meet a 0.10 lb/tsf PM emission limit, and each individual existing lime kilns and its associated cooler must meet a 0.12 lb/tsf PM emission limit. Averaging is optional, so that if each individual kiln meets its emission limit, averaging is not required. The exception to this is for existing kilns which are subject to the



0.60 lb/tsf PM emission limit. These kilns are not eligible for averaging.

If the lime manufacturing plant has multiple kilns and wants to average kilns together to meet the PM emission limit, this is allowed (with one limitation discussed below, and the exception for kilns subject to the 0.60 lb/tsf PM emission limit noted above) and the averaging equations in the final rule must be used. However, in no case may a new kiln exceed a 0.10 lb/tsf emission limit. Where there are both new and existing lime kilns at a facility, then the PM emission limit will be an average of the existing and new kiln PM emissions limits, weighted by the annual actual production rates of the individual kilns. We believe that allowing averaging is appropriate here because of the identity of the units (kilns and coolers in all cases), and the emissions (same HAP in same type of emissions, since all emissions result from kilns and coolers). Averaged emissions under these circumstances would, thus, still reflect MACT for the affected source. The averaging provisions are included in the final NESHAP as a result of the recommendations of the Small Business Advocacy Panel convened as required by section 609(b) of the Regulatory Flexibility Act (RFA) and improves the compliance flexibility options for small businesses, which is the intent of the RFA.

The only limitation we are requiring on averaging is that any new kiln, when considered alone, must meet the 0.10 lb/tsf emission limit. We do not consider this to be a significant limitation because the most likely averaging scenario involving new and existing kilns will be a facility that erects a new kiln that is designed to meet a level below the 0.10 lb/tsf emission limit. It is also appropriate to prevent a situation where a new kiln could be erected that did not perform at the same level as the best controlled facility.

We are not allowing kilns equipped with wet scrubbers for PM emissions control to be eligible for averaging. As explained more fully below, we are establishing a separate PM emissions standard for kilns equipped with wet scrubbers to avoid potentially forcing

wet scrubbers to be replaced with dry systems, which could lead to less control of SO<sub>2</sub> emissions and atmospheric formation of sulfate PM (a type of PM<sub>2.5</sub>). These considerations, however, do not justify allowing averaging between kilns with such large differences in PM emission limits. Our intent in allowing averaging was to avoid the situation where some kilns at a facility were slightly above the 0.12 lb/tsf emission limit would have to completely replace existing PM controls for only a slight reduction on overall PM emissions. If we were to allow averaging where some of the kilns only have to meet a 0.60 lb/tsf emission limit, it could result in some kilns being allowed to emit PM at levels significantly above the levels that have been determined to be best control.

We are not allowing averaging for other emission sources. Processed stone handling operations that exhaust through stacks have an emission limit of 0.50 g/dscm. We did not see an advantage to allowing averaging for these operations because they are small compared to the PM emissions for the lime kilns. The other emission limits in the final rule are for PSH operations, and the limits are expressed as opacity. As stated previously, averaging opacity limits is not appropriate. No commenter requested averaging for PSH operations.

In the proposed rule, we defined the affected source as the collection of all of the lime kilns, lime coolers and materials processing operations. We noted that this language could be misinterpreted to imply that a new lime kiln erected at an existing lime manufacturing plant would be considered existing, not new. In the final NESHAP, we have written the language in 40 CFR 63.7082 to make our intent clear. New lime kilns, whether or not they are built at an existing lime manufacturing plant, must meet the PM emission limits for new sources.

#### IV. Summary of Environmental, Energy and Economic Impacts

We considered water, solid waste, and energy impacts as part of our so-called beyond-the-floor analysis pursuant to section 112(d)(2) of the CAA, which requires consideration of "non-air

quality health and environmental impacts and energy requirements," as well as "the cost of achieving such emissions reduction," in deciding whether or not to adopt standards more stringent than the MACT floor. The following section summarize portions of these analyses.

#### A. How Many Facilities Are Subject to the Final NESHAP?

There are approximately 110 lime manufacturing plants in the U.S., not including lime production facilities at pulp and paper mills. About 30 of these 110 plants are located at beet sugar manufacturing facilities which are not subject to the final rule. We estimate that 70 percent of the remaining 80 lime manufacturing plants will be major sources co-located with major sources, or part of major sources, and, thus, about 56 lime manufacturing plants will be subject to the final rule. The other 24 facilities will incur a small, one-time cost for HCl testing to demonstrate that they are area sources.

#### B. What Are the Air Quality Impacts?

We estimate that all sources (not including lime manufacturing plants at beet sugar factories) in the lime manufacturing source category collectively emit approximately 10,720 tpy of HAP. These HAP estimates include emissions of HCl and HAP metals from existing sources and projected new sources over the next 5 years. We estimate that the final NESHAP will reduce HAP metals emissions from the lime manufacturing source category by about 3.6 tpy, and will reduce HCl emissions by about 235 tpy. In addition, we estimate that the final NESHAP will reduce PM emissions by about 3,880 tpy from a baseline level of 16,730 tpy, and the final NESHAP will reduce SO<sub>2</sub> emissions by about 6,150 tpy from a baseline of 34,650 tpy. The roughly 14 percent decrease in HCl and SO<sub>2</sub> emissions is the projected result of uncontrolled sources installing baghouses to comply with the final PM standards.

Table 1 to this preamble summarizes the baseline emissions and emissions reductions.

TABLE 1.—TOTAL NATIONAL BASELINE EMISSIONS AND EMISSIONS REDUCTIONS FOR BOTH NEW AND EXISTING LIME MANUFACTURING PLANTS

Emissions	PM (tpy)	HAP metals (tpy)	HCl (tpy)	SO <sub>2</sub> (tpy)
Baseline emissions—existing sources .....	13,588	13.5	8,541	30,783
Baseline emissions—new sources .....	3,140	2.8	2,161	3,868



TABLE 1.—TOTAL NATIONAL BASELINE EMISSIONS AND EMISSIONS REDUCTIONS FOR BOTH NEW AND EXISTING LIME MANUFACTURING PLANTS—Continued

Emissions	PM (tpy)	HAP metals (tpy)	HCl (tpy)	SO <sub>2</sub> (tpy)
Total baseline emissions .....	16,728	16.3	10,702	34,651
Emissions reductions—existing sources .....	3,786	3.4	235	6,147
Emissions reductions—new sources .....	96	0.2	0	0
Total emissions reductions .....	3,882	3.6	235	6,147

The final NESHAP will also result in some offsetting emissions increases. These increases are due to additional emissions that will occur at electricity generating facilities as a result of the need to generate the electricity required to operate the control equipment, and power the fans necessary to overcome control device pressure drop. We estimate these emission increases to be 0.3 tpy for PM, 12.4 tpy for sulfur dioxide (SO<sub>2</sub>), and 6.1 tpy for nitrogen oxides (NO<sub>x</sub>). It should be noted that these emissions increases are insignificant when compared to the emissions decreases that result from the final NESHAP.

#### C. What Are the Water Impacts?

We expect overall water consumption for existing sources to increase by about 1,250 million gallons per year from current levels as a result of the final rule. This estimate is based on the assumption that sources will upgrade or replace about 30 percent of the existing wet scrubbers to comply with the PM standards, and these new or upgraded scrubbers will require a higher water flow rate that the scrubbers currently installed. For new sources, we expect no additional water consumption, as we do not expect new sources to install wet scrubbers for PM control.

#### D. What Are the Solid Waste Impacts?

As a result of the final rule, solid waste will be generated as additional PM is collected in complying with the PM standards. We estimate that about 3,880 tpy of additional solid waste will be generated as a result of today's final rule. This estimate does not include consideration that some of this will most likely be recycled directly to the lime kiln as feedstock or sold as byproduct material (agricultural lime).

#### E. What Are the Energy Impacts?

We expect electricity demand from existing sources to increase by about 4.0 million kilowatt-hours/yr (kWh/yr) as a result of the final rule. This estimate is based on the assumption that sources will replace existing wet scrubbers with

new, more efficient venturi wet scrubbers (that require more electricity). For new sources, we expect an increase in electricity usage of about 0.1 million kWh/yr as a result of the final rule. This electricity demand is associated with complying with the PM standards for new sources.

#### F. What Are the Cost Impacts?

The estimated total national capital cost of today's final rule is \$28.2 million. This capital cost applies to projected new and existing sources and includes the cost to purchase and install emissions control equipment (e.g., existing PM control equipment upgrades); monitoring equipment; the costs of initial performance tests; and emissions tests to measure HCl to determine whether a source is a major source, and, hence subject to the final standards.

The estimated annualized costs of the final NESHAP are \$18.0 million. The annualized costs account for the annualized capital costs of the control and monitoring equipment, operation and maintenance costs, periodic monitoring of materials handling operations, and annualized costs of the initial emissions testing.

#### G. What Are the Economic Impacts?

It should be noted that the economic impacts and social costs described below slightly overestimate the impacts for today's action, for they reflect the higher cost estimates (\$22.4 million annualized costs) associated with the proposed rule.

The results of our economic impact analysis indicate the average price per ton for lime will increase by 2.1 percent (or \$1.17 per metric ton) as a result of the final standards for lime manufacturers. Overall lime production is projected to decrease by 1.8 percent as a result of the final standards. Because of the uncertainty of control cost information for large firms, we accounted for these firms as a single aggregate firm in the economic model, so it is not plausible to estimate closures for large firms. However, among the 19

small firms in this industry, we project that two firms are at risk for closure.

Based on the market analysis, we project the annual social costs of the final rule to be \$20.2 million. As a result of higher prices and lower consumption levels, we project the consumers of lime (both domestic and foreign) will lose \$19.7 million annually, while domestic producer surplus will decline by \$0.8 million. Foreign producers will gain as a result of the final rule with profit increasing by \$0.2 million. For more information regarding the economic impacts, consult the economic impact analysis in the docket for the final rule.

#### V. Responses to Major Comments

This section presents a summary of responses to major comments. A summary of all comments received and our responses to those comments may be found in Docket ID No. OAR 2002–0052.

*Comment:* In the preamble to the proposed rule, EPA requested comment on establishing a subcategory for existing kilns equipped with wet scrubbers, if it could be demonstrated factually that there will otherwise be significant environmentally counterproductive effects due to increased emissions of acid gases, increased energy use, or increased water use. Several commenters asked that a subcategory for scrubber-equipped kilns be established since wet scrubbers cannot meet the proposed PM emission limit of 0.12 lb/tsf for existing affected kilns and, therefore, existing kilns with scrubbers will have to replace them with baghouses. They also asserted that in most cases, wet scrubbers have higher annualized costs than baghouses. Therefore, even if a wet scrubber could meet a PM emission limit of 0.12 lb/tsf, facilities will opt to use baghouses due to cost considerations. This will result in an increase in emissions of HCl (a HAP) and SO<sub>2</sub> (a non-HAP criteria pollutant) for a nominal decrease in HAP metal emissions. In later discussions, this same commenter (the industry trade association) pointed out that SO<sub>2</sub> can undergo chemical reactions

in the atmosphere to form sulfate PM, which is a type of PM which is less than 2.5 micrometers in diameter (fine PM). In support of this request, one commenter provided estimates that not establishing the requested wet scrubber subcategory will result in a HAP metals emissions decrease of 3 tpy nationwide, but will result in increased emissions of 2,220 tpy for HCl and 2,475 tpy for SO<sub>2</sub>. They also provided data indicating that 46 percent of the increased SO<sub>2</sub> emissions would react to form fine PM in the form of sulfates. They estimate that this would result in an increase of 1,645 tpy of fine PM emissions. Other commenters provided site-specific examples they claimed demonstrated the same effect. One commenter also claimed that the higher operating temperatures of dry systems cause metals to vaporize and pass through a particulate collector, resulting in a lower metal concentration in the captured particulate. As a result, they claimed that even though dry control equipment may reduce HAP metals emissions, the reduction will be minimal, while the release of HCl and SO<sub>2</sub> emissions will increase significantly. The commenter provided data which they claimed show the only conventional pollutant that will be reduced with the installation of a dry control system will be PM and, "fugitive dust emissions from a dry system could more than offset the improved particulate collection on the kiln exhausts."

*Response:* Standards implementing section 112(d) of the CAA must, of course, be of a minimum level of stringency, usually referred to as the MACT floor. For existing sources, this floor level of control cannot be less stringent than "the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information)." In the final rule, EPA is establishing section 112(d) standards to control emissions of HAP metals, for which PM is a surrogate. None of the commenters challenged that the level of PM emissions reflecting the average of the 12 percent of the best performing sources (for HAP metals reduction) is 0.12 lb/tsf. Notwithstanding, the commenters contended that EPA should subcategorize on the basis of the type of air pollution control device used and then separately determine the floor for each subcategory.

Although the CAA contemplates that EPA may establish subcategories when promulgating MACT standards, subcategorization typically reflects "differences in manufacturing process,

emission characteristics, or technical feasibility" (67 FR 78058). A classic example, provided in the legislative history to CAA section 112(d), is of a different process leading to different emissions and different types of control strategies, the specific example being Soderberg and prebaked anode primary aluminum processes (see *A Legislative History of the Clean Air Act Amendments of 1990*, vol. 1 at 1138-39 (floor debates on Conference Report)).

Normally, it is legally impermissible to subcategorize based on the type of air pollution control device. See *Chemicals Manufacturers Association v. EPA*, 870 F. 2d 177, 218-19 (5th Cir. 1989) modified on different grounds on rehearing 884 F. 2d 253 (5th Cir. 1989) (rejecting subcategorization based on type of control device for purposes of the technology-based standards under the Clean Water Act, which are analogous to the CAA section 112 standards). The problem with subcategorizing on the basis of pollution control device, quite simply, is that it leads to situations where floors are established based on performance of sources that are not the best performing. For example, suppose a source category consists of 100 sources using the same process and having the same emission characteristics, but that 50 sources use control device A to control HAP emissions, and 50 use control device B which is two orders of magnitude less efficient. If one subcategorized based on the type of pollution control device, the MACT floor for the 50 sources with control device B would reflect worst, rather than best performance. Although the disparity in levels of emission control between the best-performing sources here, and the best-performing sources using wet scrubbers is not this dramatic, the difference is nonetheless evident.

Commenters provided no technical data that would justify subcategorizing. Nor are we aware of any. The commenters maintain instead that the best performing sources with respect to HAP metal reduction should not be considered "best performing" because that performance (achieved by use of FF) comes at an environmental cost, namely increased emissions of HCl and SO<sub>2</sub> compared to what lime kilns equipped with wet scrubbers will emit. There is some support for the idea that if an ostensibly best-performing pollution control device creates potentially significant and counterproductive environmental effects, its performance need no longer be considered best due to the counterproductive effects and could justify differentiation in the form of

separate standards. Commenters suggested that the increased emissions of HCl and SO<sub>2</sub> will inevitably result (they maintain) if the owners of lime kilns replace wet scrubbers with baghouses. (The commenters did not suggest, however, that kilns with FF should replace them with a different type of control system to avoid these impacts; they sought the result of separate standards for FF-equipped kilns and wet system-equipped kilns.)

Although it is not clear that the commenters' starting premise, that baghouses are either needed or will be used to achieve the PM standard, is invariably correct (see Response to Comment Document where EPA responds to comments regarding the performance capabilities of venturi wet scrubber systems), EPA estimated at proposal and continues to estimate that at least in some cases, kilns would replace wet scrubbers with dry systems (for example, where it is more economical to do so).

The commenters provided no data to refute that a PM emission limit of a 0.12 lb/tsf represents best control of HAP emissions if we do not create any kiln subcategories. (We note that as part of their comments, they claimed that the higher temperatures of dry PM controls result in metals vaporizing and passing through the PM control. However, the data provided in their comment do not substantiate that claim, and studies done for the Hazardous Waste Combustor NESHAP indicate that all but a few percent of the metals in question exit the kilns as solid particulate.) However, our analysis indicates that the extent to which SO<sub>2</sub> and HCl emissions actually increase may have been overstated by the commenter. The EPA estimates that if all facilities currently using wet scrubbers switched to dry controls, HCl emissions would increase by approximately 1,310 tpy (vs. 1,800 tpy estimated by the commenter), and SO<sub>2</sub> emissions would increase by about 1,830 tpy (vs 2,900 tpy estimated by the commenter). (See the memorandum "Environmental Impacts of Decision on Best Control for Wet Scrubber-Controlled Kilns" in the docket for the final rule.) We do not regard either level of increased HCl emissions as significant. We modeled this emission increase as part of our determination (pursuant to CAA section 112(d)(4)) that emissions of HCl from lime kilns are below an HCl risk threshold within an ample margin of safety. See 67 FR 78054-78057 and the risk analysis in the docket for the final rule. Given this determination, we cannot view these HCl increases as being so significant as

to raise a question whether the best-performing sources with respect to HAP metal reductions are in fact best performing.

The commenters also cited projected increases in the criteria pollutant SO<sub>2</sub>. They did not initially address the reductions in PM emissions resulting from the decision not to subcategorize by control device. The EPA estimates that nearly 1,080 tpy of additional PM is removed if all existing kilns were to meet a standard of 0.12 lb/tsf, of which approximately 1.6 tpy are metal HAP. Although EPA may not promulgate standards for non-HAP under CAA section 112(d), Congress expected reductions in emissions of criteria pollutants such as PM to be a benefit of the MACT program. In comparison to estimates of increased emissions of SO<sub>2</sub> and HCl by either the commenter or EPA, the decrease in captured PM emissions (and the attendant decrease in capture of non-mercury metal HAP) is significant.

There is a further consideration, however. Based on the available size distribution data from Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, 73 percent of the PM emitted directly by lime kilns is coarse PM (PM in the size range of 10 to 2.5 micrometers). Some of the SO<sub>2</sub> emitted to the atmosphere undergoes chemical reactions to form fine PM. (See generally the respective Criteria Documents for PM (EPA/600/P-95/001aF-cF. 3v, 1996) and SO<sub>2</sub> (EPA/600/8-82-029aF-cF. 3v., 1982 and addenda)). Thus, in assessing whether some potential factor might justify a decision that kilns with dry systems are not best performing, some comparison of coarse v. fine PM emissions here is needed.

If we retain a single PM emission limit of 0.12 lb/tsf for all existing kilns, total PM emissions would be reduced (compared to separate standards for kilns with wet scrubbers and dry controls) by an additional 1,080 tpy. Of that number, 630 tpy is fine PM and 450 is coarse PM. The potential amount of increased SO<sub>2</sub> emissions is 1,830. A portion of this 1,830 tpy of SO<sub>2</sub> will be converted in the atmosphere to produce 1,270 tpy of fine PM. Therefore, the incremental impact of a single PM standard of 0.12 lb/tsf for both wet scrubbers and dry controls would be an increase of 640 (1,270-630) tpy in fine PM emissions, and a decrease of 450 tpy in coarse PM emissions. This assumes that all facilities that currently have wet scrubbers switch to dry controls, and that 46 percent of the SO<sub>2</sub> converts to fine PM. The 46 percent conversion estimate used by the commenter is

consistent with information in the respective Criteria Documents for PM and SO<sub>2</sub> discussed above.

As recently summarized by EPA (68 FR 28339, May 23, 2003), scientific studies show ambient PM (both fine and coarse) is associated with a series of adverse health effects. Fine PM is associated with increases in daily mortality. Coarse PM is more strongly linked to morbidity (e.g. hospital admissions). See generally the respective Criteria Documents for PM (EPA/600/P-95/001aF-cF. 3v, 1996) and SO<sub>2</sub> (EPA/600/8-82-029aF-cF. 3v., 1982 and addenda). Therefore, it is difficult to make comparisons between the relative benefits of reducing emissions of fine and coarse PM.

The EPA views this situation as equivocal: It is unclear which of these types of performance is best since on the one hand there is reduced emissions of HAP metals and coarse PM but foregone control of SO<sub>2</sub> and sulfate (fine) PM, and, for kilns controlled with wet systems, the converse. In this situation, and based on these facts, which, with current analytic tools seem to us to be largely in equipoise, we are not prepared to view either wet or dry systems as best performing and instead are promulgating a separate PM standard for each.

The EPA emphasizes that considerations of risk and relative environmental benefits are normally irrelevant to MACT floor determinations (unless expressly authorized by statute, as in CAA section 112(d)(4) as applied in the final rule), since floor standards must reflect the performance of the specified number of designated sources. See *National Lime Ass'n v. EPA*, 233 F. 3d at 640 (considerations of cost and *de minimis* risk cannot be considered in making MACT floor determinations). We are considering these factors in the final rule solely for the purpose of evaluating the commenters' claim that sources using wet and dry control systems should be evaluated separately for MACT floor purposes due to environmental benefits and disbenefits associated with dry and dry control systems.

*Comment:* One commenter stated that wet scrubbers cannot meet the proposed PM emission limit of 0.12 lb/tsf. They claimed that a wet scrubber manufacturer will only guarantee this limit if less than 1 percent of the particles to be removed are less than 1 micrometer in diameter. The commenter stated that EPA assumes that the average mass diameter of particles in lime kiln gas effluent is 2 micrometers, and that this assumption is based on a single reference, and that reference was

actually fugitive lime dust, not lime kiln particulate. They further claimed that volatilization and homogenous nucleation of potassium chloride particles in the gas stream generates particles in the 0.1 to 0.5 micrometers size range. "As particle size decreases below 1 micrometer, inertial compaction becomes decreasingly effective. Above 0.1 micrometers, Brownian displacement is ineffective. In the range between 0.1 and 0.5 micrometers, neither of these two main particle capture mechanisms relied upon in wet scrubber design is very effective." The commenter presented data from a recent scrubber installation to demonstrate the point.

A second commenter claimed that a scrubber performance efficiency of 99.9 percent will be required to meet the 0.0072 grain/dry standard cubic foot (gr/dscf) particulate concentration which they claimed corresponds to the proposed PM emission limit of 0.12 lb/tsf. The commenter's environmental consultant advised that it is unlikely a wet scrubber with a 35-inch pressure drop could achieve this level of performance with the facility's current inlet exhaust particulate loading.

*Response:* We have serious technical disagreements with this comment, as set out in the Response to Comment Background Document. However, because EPA feels that some kilns with wet systems would replace them with dry systems to comply with a PM emission limit of 0.12 lb/tsf, the potential tradeoff between coarse PM/HAP metals and fine PM/SO<sub>2</sub> reductions likely will still occur.

*Comment:* One commenter contended that EPA asserts incorrectly that lime plants will choose high-efficiency venturi scrubbers to replace their current wet scrubbers because high-efficiency venturi scrubbers have lower capital costs and sometimes lower annual costs than FF. They further stated that five of the six model kilns the Agency examined had much higher annualized costs for high-efficiency venturi scrubbers than for FF. This commenter submitted a manufacturer's cost proposal that shows a scrubber with a 35-inch pressure drop costs substantially more than EPA estimates. They conclude from this that lime kilns will be forced to use FF, with attendant increases in HCl and SO<sub>2</sub> emissions. Another commenter stated that the cost for the installation of a FF will be higher than EPA estimated due to the location of existing equipment in the area where the collector should be located, construction of the duct collector in a congested area with plant operations,

and accessibility to existing lime kiln dust handling systems.

**Response:** Regarding modeled high costs for scrubbers compared to FF, individual models may show this characteristic. However, the distribution of kiln sizes in the lime industry and the allocation of model plants to those kilns shows that estimated nationwide total annual costs for replacing existing wet scrubbers with high-efficiency venturi scrubbers is \$6.6 million. The total annual cost if the existing wet scrubbers are replaced with FF is \$7.0 million. So there is essentially no cost difference on a nationwide basis.

For both types of control system, costs for any specific plant may be more or less than the value shown by the model used to estimate nationwide cost. The plant is expected to buy whatever system its management believes is in the best business interests of the owners, but in the aggregate, estimated annual cost for control systems is about the same whether all plants replace existing equipment with venturi scrubbers or with FF. It is for this reason that EPA is finding that at least some kilns would replace wet systems with dry if required to meet a uniform PM limit of 0.12 lb/tsf.

There were two comments where specific facilities claimed that their costs will be higher than EPA estimated in our model plant analysis. One was a vendor's actual cost proposal for a scrubber with 35-inch w.g. pressure drop, and one was for installation of a FF. Our costs are based on model plants developed from industry responses to questionnaires. Given that we do not have site specific information on every facility, this is a reasonable approach to calculating costs. It is always possible that there are site specific factors that will result in any one facility having higher or lower costs than costs estimated using model plants. Our methodology is based on estimates of basic equipment costs, and factors to calculate direct and indirect capital costs that constitute total capital investment. Unit costs are applied to labor, utilities, waste disposal, and other operating and maintenance costs to obtain direct annual costs. Indirect annualized costs based on capital recovery and other service charges are also estimated and added to direct annual costs to obtain total annual cost. Costing based on a model plant gives an estimate that can be included in an aggregate estimation of costs across all model plants weighted by their representation in the nationwide population. This approach necessarily will not address each specific case found in industry. Therefore, one

facility's reported costs not corresponding to our model plant costs does not indicate that our costs are underestimated. We also note that, except for a comment on flue gas flow which we previously addressed, the commenters did not take exception to the basic equipment costs, energy costs, or cost factors used by us in our model plant assessment of the rule's cost analysis as proposed.

One commenter also mentioned the cost resulting from the location of existing equipment and plant congestion. We have accounted for these costs by including factors for demolition and salvage of existing equipment that will have to be replaced by the new control system. A retrofit factor is also included to account for difficulties in replacing existing equipment with new equipment in an existing plant (see "Costing Algorithm for Venturi Scrubber on Lime Kilns with Existing Scrubbers").

**Comment:** Several commenters claimed that not establishing a subcategory for scrubber-equipped kilns will adversely affect small businesses. They stated that the annualized cost of upgrading all scrubbers is \$9.45 million, based on EPA's estimate of total annualized costs. According to the commenter, EPA predicts that upgrading these kilns will reduce HAP metals by 3.1 tpy, resulting in a cost effectiveness of \$3.0 million/ton of metal HAP. The commenter stated that EPA's assumption that 30 percent of lime plants are area sources and won't be affected by the final rule reduces the removal of metal HAP attributed to upgrading scrubber-equipped kilns to 2.2 tpy (although the commenter stated that EPA has provided no support for the assumption that 30 percent of lime plants are area sources).

Another commenter noted that EPA's estimated annualized cost for the commenter to install FF is \$2,236,000, which equates to \$9.3 million per ton of particulate HAP control.

**Response:** Section 112 of the CAA precludes us from considering cost when calculating MACT floors. Therefore, none of the cost issues discussed above are sufficient to support a separate subcategory for existing kilns with wet scrubbers, or otherwise support a different standard.

Though costs cannot be a consideration here, our estimate shows a cost of \$6.6 million to upgrade all scrubbers to meet the rule as proposed, versus the \$9.45 million figure provided by the commenter. Our estimate assumed 70 percent of kilns are located at major sources, and 90 percent of scrubbers would require an upgrade.

This was probable an overly conservative way to estimate costs. In reality, it is reasonable to assume that, on average, the existing scrubbers have only 50 percent of their useful life remaining. Because we allocated all of the capital cost of a new scrubber to the rule, our costs are conservative.

However, we have written the final rule to allow separate PM emission limits for kilns with wet versus dry controls. Therefore, the premise of the comment, that not subcategorizing by control device will adversely affect small business, is now moot. In the final costs, we estimate that only 30 percent of existing wet scrubbers will require upgrade or replacement. As noted previously, because we are allocating all the capital replacement cost to the final rule, our costs are still conservative.

**Comment:** One commenter objected to EPA's rationale of using PM as a surrogate for controlling toxic metals emissions. The commenter stated that if EPA has sufficient data to indicate that toxic emissions from lime kilns are an ambient air problem, then the regulation should focus on reducing gaseous emissions such as HCl.

**Response:** By limiting emissions of PM, the final rule will reduce emissions of non-volatile and semi-volatile metal HAP, which are a subset of PM, and are necessarily removed when PM is removed by air pollution control equipment. As stated in the preamble to the proposed rule, air pollution controls for HAP metals are the same as the PM controls used by the lime manufacturing industry, i.e., FF, ESP, and wet scrubbers. These controls capture non-volatile and semi-volatile metal HAP non-preferentially along with other PM, thus making PM an acceptable indicator of these HAP metals. Particulate matter control technology, thus, indiscriminately captures HAP metals along with other particulate. Consequently, it is an appropriate indicator when the technical basis of the standard is performance of back-end particulate control technology.

Another reason for using a surrogate is the lower cost of emissions testing and monitoring for PM as compared to the cost of emissions testing and monitoring for multiple metal HAP that will be required to demonstrate compliance. Because PM control devices control metal HAP to the same efficiency and because of the associated cost savings associated with emissions testing and monitoring, the Agency has promulgated several other NESHAP where PM is a surrogate for non-volatile and semi-volatile metal HAP.

Regarding the commenter's second point concerning regulating emission of

HCl, the preamble to the proposed rule explained in detail the Agency's decision not to regulate HCl emissions from lime kilns. To summarize that discussion, the EPA determined that, under the authority of section 112(d)(4) of the CAA, no further control was necessary because HCl is a threshold pollutant, and HCl levels emitted from lime kilns are below the threshold value within an ample margin of safety to humans and to the environment, and considering the possibility that facilities that currently have wet scrubbers for PM emissions control may switch to dry PM controls. (The CAA section 112(d)(4) analysis also considered the potential for environmental harm posed by HCl emissions from these sources.)

*Comment:* One commenter stated that the PM emission limit for new lime kilns should be 0.12 lb/tsf, the same as the emission limit for existing kilns. The commenter noted that the proposed limit is based on two 3-hour test runs at one plant. According to the commenter, EPA recognized in the proposal preamble that 3-hour test results are just a snapshot in time and should not be used as the basis for establishing an enforceable standard, and that EPA expressly rejected such an approach when establishing the MACT floor for existing kilns. The commenter stated that data in the docket shows that 0.10 lb/tsf is not continuously achievable by lime kilns, and EPA should not establish a separate PM limit for new lime kilns.

Another commenter stated 0.10 lbs PM/ton stone feed for a new kiln is too restrictive, and EPA does not have adequate data to determine that a FF or scrubber-equipped kiln could achieve this low level of emissions on a sustained basis.

*Response:* The approach to which the commenter refers whereby EPA rejected the use of the "average or mean" in establishing the MACT floor for existing sources did not refer to the average of individual test runs as implied by the comment. Rather, it refers to EPA's decision to use the median (instead of a simple mean) of the top-performing 12 percent to set the MACT floor. Furthermore, as an indication of the achievability of the technology over the long term, EPA chose to rely on State-imposed permit limits (in conjunction with emissions test data showing that those permit limits are representative of actual performance) in arriving at the MACT floor emission limit.

In test data cited by the commenter, the three-run averages for two sets of emissions tests for the kiln used to set the MACT new PM limit are below (0.079 and 0.091 lb/tsf) the proposed

PM limit of 0.1 lb/tsf for new lime kilns. The commenter noted that one of the test runs was at the proposed 0.1 lb/tsf PM limit and that the proposed 0.1 lb/tsf limit was, therefore, inappropriate.

It is reasonable for EPA to establish a standard based on the same methodology that will be used for complying with that standard. See, e.g., *Chemical Waste Management v. EPA*, 976 F. 2d 2, 34 (D.C. Cir. 1992). We note that compliance with emission limits is normally based on a three-run average which can accommodate occasional elevated results as long as the average is at or below the established limit. Furthermore, the emission test results for five of the six top performing kilns were 0.0091, 0.013, 0.026, 0.027, and 0.091 lb/tsf. These results adequately account for operating variability and indicate that any new kiln using well designed and operated control devices can meet the 0.1 lb/tsf limit. Based on this, we see no basis to state that a 0.10 lb/tsf PM emission limit is not achievable or appropriate.

*Comment:* One commenter claimed that the proposed NESHAP will require the replacement of their two wet scrubbers with baghouses. They claim there is no space for FF retrofit, and that converting to baghouses will trigger prevention of significant deterioration (PSD) nonattainment review due to increased SO<sub>2</sub> emissions.

*Response:* While we recognize that a facility may (or may not) have site-specific space restrictions, we have, on average, adequately accounted for these factors by incorporating cost analysis factors to account for retrofit and equipment demolition. We have also allowed a facility 3 years to comply with the final NESHAP. This should allow sufficient time for facilities to replace or upgrade existing equipment during scheduled outages. The averaging provisions in the final NESHAP also provide facilities with additional flexibility concerning replacement or upgrade of existing equipment.

Requiring an existing facility with a wet scrubber to upgrade their PM controls to meet 0.12 lb/tsf will not necessarily trigger new source review (NSR). First, as previously discussed, the facility can choose to replace or upgrade their existing scrubbers, which means there will be no SO<sub>2</sub> (or other collateral pollutant) emissions increase to trigger NSR requirements. Second, if they choose to use a baghouse, they may be able to avoid NSR by qualifying for a pollution control project exclusion (67 FR 80186).

*Comment:* One commenter stated the particulate matter emission limits

proposed for lime manufacturing kilns and coolers do not represent the maximum achievable control technology and are much less stringent than the limits actually required by the CAA. The commenter noted that the proposed rule discredits performance test data which demonstrate that particulate emissions of less than half the proposed standard for existing plants are routinely achieved by claiming they may not be consistently achievable, but EPA has provided no statistics. The commenter claimed that EPA has chosen instead to base the standards on permit limits, but has selectively eliminated from consideration those permits calling for stringent controls which are currently in place. The commenter gives the examples of Continental Lime which is in compliance with a best available control technology (BACT) limit for PM emissions of 0.05 lb/ton limestone, and Western Lime which is in compliance with a permit limit for PM emissions of 0.06 lb/ton limestone.

The commenter noted that if performance data do not represent achievable emission limits, EPA should consider design standards based on air-to-cloth ratios. The commenter also stated the proposed particulate emission limits for grinders, conveyors, and bins are also based on data which overstate emissions (in nearly all cases) and do not represent MACT. The commenter stated EPA should examine actual performance test data test or actual permit limitations.

*Response:* The EPA reviewed data on the kilns referred to in the comment. The permit limits cited by the commenter were apparently reported on the EPA Technology Transfer Network (TTN) website. The EPA contacted the Montana Department of Environment and found that the limit for one of these kilns is actually 0.5 lb/tsf and not 0.05 lb/tsf as reported on the TTN website. Also, the complete permit for the other kiln mentioned was located on the Wisconsin Department of Natural Resources website, which showed the permit limit for the kiln in question as being 0.12 lb/tsf rather than the 0.058 lb/tsf as reported on the TTN website. Based on the correct PM permit limits for these two lime sources, EPA's conclusions regarding MACT PM limits for existing and new sources are still appropriate. As the response to the previous question shows, these permit limits are also representative of actual performance.

The floor for grinders, conveyors, and bins is based on the existing new source performance standards (NSPS). We have no data to support a different floor.



*Comment:* One commenter stated that opacity does not correlate to PM mass emissions. The commenter noted the EPA has stated on several occasions that a COMS can determine opacity, but a COMS cannot determine PM emissions. And if particle density changes but the particle size remains the same, opacity will not change while the mass emission rate will change in proportion to the density change. The commenter agreed that PM is a technically sound surrogate for HAP metals, but disagreed that opacity serves as a surrogate for HAP metals as stated in the proposal preamble.

The commenter stated that a COMS can not be used to evaluate the continuous compliance status of kilns, coolers, or PSH operations that have a mass emission limit. The commenter was not aware of any data that show a definitive link between opacity and mass emissions except in very limited and controlled situations. In addition, the commenter did not understand how a 15 percent 6-minute average opacity limit can be correlated to a 3-hour rolling average PM emission limit of lb/ton of stone feed.

The commenter stated a better alternative is to use a PM continuous emissions monitor system (CEMS) that measures PM mass emissions in units that are directly related to the mass emission limit. The commenter noted that EPA's stated reluctance to use a PM CEMS in the absence of performance specifications is inconsistent with the remainder of the standard, since the use of BLDS and a PM detector are proposed without performance specifications. The commenter also noted that an extractive type PM CEMS designed to operate in wet exhaust streams can provide a direct indication of compliance for wet scrubbers.

*Response:* We agree that a COMS cannot directly measure PM emissions. However, a properly calibrated and maintained COMS is sufficient to demonstrate long term PM control device performance. The purpose of the monitor is to demonstrate with reasonable certainty that the PM control device is operating as well as it did during the PM emission test used to demonstrate compliance.

We also note that PM CEMS are significantly more expensive to purchase and maintain than a COMS or PM detector. Also, PM CEMS measure concentration, while the basis of the standard is mass per unit of feed input. Because the standard is not based on PM concentration, and no PM CEMS are currently installed and operating on the best controlled kilns, we have no data

to develop a PM standard based on the use of PM CEMS.

*Comment:* Several commenters stated EPA Method 9 in Appendix A to 40 CFR part 60 should be allowed for a positive pressure baghouse. According to one commenter, the bag leak detector guidance document recognizes that requiring BLDS will be very costly, and stated that the document does not apply to this type of baghouse (EPA's "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997, pg 2). This commenter gave the example of a small business that will be required to have a bag leak detector for each of the eight compartments in its baghouse under the final rule, and whose title V permit allows Method 9 monitoring for the baghouse. According to one commenter, the associated costs of installing a separate bag leak detector or PM CEM sensor on each discharge or new common stack could easily exceed \$1,000,000. The commenter noted that, "baghouse pressure differential readings, together with fan amperage and daily visible emission notations will provide the necessary performance assurance with ample and timely indication of baghouse failures or malfunctions."

*Response:* We acknowledge that there are precedents for the use of alternatives to COMS, BLDS, and PM detectors on positive pressure baghouses that have multiple stacks. The NESHAP for portland cement, an industry that has similarities to the lime manufacturing industry, allows the use of opacity monitoring using Method 9 in Appendix A of 40 CFR part 60 for kilns having control devices with multiple stacks. Based on this analogous situation, we have decided that existing lime kilns controlled by control devices having multiple stacks will have the option of using Method 9 in Appendix A of 40 CFR part 60 for daily opacity monitoring.

*Comment:* One commenter stated that a single excursion from operating parameters recorded during a 3-hour compliance test should not constitute a violation. The commenter stated that, "the new source performance standard (NSPS) kilns are the lime industry's top performers, and their monitoring regime should be the benchmark against which monitoring under the MACT rule is prescribed." Since a violation under the NSPS does not occur unless the parameter is greater than 30 percent below the rates established during the performance test, the commenter recommends a 30 percent "buffer" between the permit limit and the 3-hour average recorded during the compliance test. Or, "alternatively, like the Pulp and

Paper MACT, the rule should specify that a violation of the standard does not occur unless 6 or more 3-hour average parameter values are recorded outside the established range within the 6 month reporting period."

The commenter noted that EPA's compliance assurance monitoring (CAM) guidance document states, "Use of only 3 hours of parameter data may not be sufficient to fully characterize parameter values during normal operation." The commenter also noted that language in the proposal preamble cautions against developing enforceable emission standards based on 3-hour compliance tests. The commenter also noted that none of the CAM plans for scrubbers base a permit limit on the 3-hour average reading that occurred during a compliance test, and two of the plans allow a 15 percent buffer to account for variability.

The commenter provided gas pressure drop readings and concurrent PM test data for three kilns, and noted that for each of them, gas pressure drop during one or more 1-hour runs was below the proposed 3-hour average. The commenter stated that under the proposed rules, these readings below the 3-hour average would constitute a violation.

The commenter also stated the final rule should provide an exemption from the PM emission limit during performance testing. The commenter stated, "plant operators may need to conduct a series of performance tests to determine the minimum pressure drop and liquid flow rate levels that will assure compliance for each set of operating conditions used for a particular kiln. Results for these tests are not available until post-test laboratory analyses are completed."

*Response:* Each owner/operator is required to define the compliance parameters to be monitored in their OM&M plan. Then, during the initial performance tests, they are required to monitor and establish the value or range of the parameters. The 30 percent buffers referred to by the commenters refer to NSPS, which, in general, predate NESHAP. In developing various NESHAP, we determined that the 30 percent buffers were not necessary. For this reason, most NESHAP specify that exceeding an operating parameter over the specified averaging period is a deviation. The commenters also mentioned the Pulp and Paper MACT. However, the Pulp and Paper MACT would appear to be unusual in regards to the allowance for exceedances. The commenters did not provide any rationale why we should add provisions similar to the Pulp and Paper MACT

when other MACT standards do not allow exceedances.

The commenters also referred to a statement in the CAM proposal and guidance document. The CAM rule only applies to emission limitations or standards proposed by the Administration on or before November 15, 1990. Monitoring and control technology have progressed significantly since the technology available when these older rules were developed. Also, facilities have 3 years to install control equipment and learn their processes' operating parameters and set up compliance test conditions that result in operating limits that both result in compliance with the PM emission limit and can be met on a continuous basis. For these reasons, we do not agree that the CAM applies here.

Most operating parameters are required to be calculated as 3-hour averages. This is generally consistent with performance test times. Thus, a 1-hour period of insufficient gas pressure drop will not, by itself, be considered an excursion.

Facilities must complete their performance tests prior to the compliance date. Therefore, they are not required to be in compliance with the emission limits during testing, and there is no reason to provide an exemption.

*Comment:* In response to EPA's request for comments on the appropriate opacity limit (EPA was considering an opacity limit of 10 to 15 percent), several commenters stated that the opacity standard for lime kilns should be 15 percent, as proposed. One commenter provided additional data in the form of opacity data from four kilns. According to this commenter, the opacity data for selected kilns are not reliable for establishing an opacity standard because they are from visible emission data collected for brief periods of time under poor viewing conditions.

*Response:* Based on information considered prior to proposal as well as additional information supplied by commenters, EPA is retaining the 15 percent opacity limit for sources controlled using FF and ESP. Information considered by EPA in proposing the opacity limit suggested that the average opacity permit limit of the top performing lime kilns was 15 percent. Information provided by the commenters supporting the proposed opacity limit indicated that opacity levels may vary between 10 and 15 percent even for well operated and maintained kilns. No information was provided supporting a more stringent, or more lenient opacity limit than the one proposed. Therefore, EPA is retaining

the proposed 15 percent opacity limit in the final NESHAP.

*Comment:* Several commenters requested that the final rule specify a time period during which opacity readings greater than 15 percent are not considered a violation. One commenter requested that a minimum that the final rule state that opacity readings greater than 15 percent for less than 1 percent of the reporting period are not considered to be a violation.

Another commenter noted that they operate two of the top six performers in the industry, and it is impossible not to have occasional readings that would be violations if there were no allowances for them. The commenter's State permits allow 1 percent of operating time per quarter to exceed the opacity limit.

Another commenter suggested other time frames for allowable exceedances. Two commenters referred to the Pulp and Paper MACT as an example of an existing rule with such an exemption.

*Response:* We find no justification to support allowing excursions above the 15 percent opacity limit. Well operated and maintained control devices will typically operate at opacity levels much lower than 15 percent. Other NESHAP, including the portland cement NESHAP, contain opacity limits for which no exceedances are allowed. Data from limes kilns, cited below, support this. Because we have industry specific data, the Pulp and Paper MACT example is not applicable.

In response to the commenters' concerns about occasional excursions above the opacity limit, there are times when opacity levels above 15 percent are not considered to be a violation of the final rule. These include periods when a control device malfunctions, or is in a period startup or shutdown (as long as the facility follows its SSMP). If opacity levels exceed 15 percent as a result of a control device startup, shutdown, or malfunction, it will not be considered a violation of the opacity limit (see § 63.7121(b) of the final rule). The same is true during periods when a monitoring system malfunctions or is being calibrated (see § 63.7120(b) of the final rule).

Information supplied by one commenter showed opacity readings for several kilns over several days. Nearly all of the readings were well below the 15 percent limit with just a few exceptions for each kiln. The commenter who supplied the opacity readings was asked to supply additional information regarding the opacity excursions above 15 percent. In each instance, the high opacity reading was explained by a startup, shutdown, or

malfunction of the control device or by a malfunctioning monitor or a monitoring system that was undergoing calibration, none of which will be considered a violation of the opacity limit as long as the facility follows its SSMP. Well run and maintained control devices can meet the opacity limit and the occasional excursion above the limit due to control device or monitoring system malfunction will not be a violation of the operating limit.

*Comment:* One commenter claimed that the economic impacts analysis (EIA) neglected to include some significant costs of implementing the rule, including the cost of dismantling existing equipment, lost sales during downtime, and the cost of re-hiring personnel after plant modifications if scrubbers must be replaced. The commenter also noted that maintenance and supervisory personnel currently do not work evening and weekend shifts, but will likely be required in the event of failure of the recommended monitoring equipment.

A second commenter stated EPA's estimated \$1.17 per ton of lime cost estimate for control costs is low, and the cost to a typical lime producer will be significantly higher. In particular, the commenter noted that the additional power required for high pressure drop scrubbers alone would be approximately \$1.30 per ton of produced lime. In addition, EPA's estimated equipment costs appear to be low.

*Response:* As discussed in the response to comments regarding a separate subcategory for scrubbers, estimated implementation costs used for the EPA model plants include costs for demolition of existing equipment and credits for salvage value. Because plants have a 3-year period in which to comply with the final NESHAP, it is expected that scheduled downtime will be used for disconnecting an existing scrubber and connecting a new scrubber. As a general practice, building a new scrubber while the existing scrubber remains in operation is preferable to taking the associated kiln out of service for an extended period of time and losing production from the kiln. The plant is expected to use its labor force in the manner normally found for planned downtime. Such labor costs (or savings) would not be attributable to compliance with the final NESHAP.

Power costs for new scrubbers are calculated incrementally, i.e., costs are estimated for the difference between 35-inch w.g. (new scrubbers) and 14 inch w.g. (existing scrubbers). For individual model kilns, summing the power costs and dividing by the model's production rate gives estimated incremental power



costs ranging from \$0.82 to \$1.47/ton of lime. On a nationwide basis, aggregating the model kiln costs apportioned among the affected kiln population provides average costs as estimated by EPA.

*Comment:* One commenter claimed that the EIA is seriously flawed because it assumes lime producers can pass control costs through to consumers. The commenter maintained that lime producers cannot raise prices. The reasons cited included a highly competitive market due to overcapacity, competition from unregulated sources, the existence of competitive substitutes for most key markets, and significant market resistance. The commenter also claimed that recent history proves that prices cannot be increased. Finally, the commenter stated that because the price increase assumed by EPA is erroneous, EPA's prediction that only two lime plants will close seriously understates the impact. One other commenter also stated that they could not increase prices.

*Response:* We conducted an economic analysis primarily as part of the Executive Order 12866 analysis and partly to ascertain impacts on small businesses for purposes of compliance with the Small Business Regulatory and Enforcement Fairness Act (SBREFA). The analysis is also used to determine economic impacts of any beyond-the-floor considerations under section 112(d)(2) of the CAA. However, as provided by section 112(d)(3), and confirmed by the D.C. Circuit in the *National Lime* case, considerations of costs are simply irrelevant to determinations of MACT floors. Thus, EPA did not consider any of the economic analysis as part of its floor determinations, and that context should be understood in all of the responses to comments relating to the Agency's economic impact analysis.

The fact that many lime plants are currently operating at less than full capacity implies that their supply curves should be relatively elastic (flat) at current production levels because lime producers can fairly easily change output without running into capacity constraints.

Assuming that the lime industry is very competitive (as stated by the commenter) and has substantial overcapacity implies that the industry marginal cost curve (and the market supply curve) should be relatively flat at current production levels. To the extent that the costs of the lime manufacturing MACT standards increase the marginal costs of lime production, having a very elastic (flat) supply curve is a textbook case where the majority of the costs are passed on to consumers. A highly

competitive market implies, by definition, that individual producers cannot unilaterally increase their prices without losing most, if not all, of their customers. It does not imply that the market price will not increase in response to a general increase in the cost of lime production due to environmental regulations.

It is certainly true that foreign lime suppliers (including suppliers located in Mexico) gain because the final rule applies only to domestic lime producers. However, imports of lime account for an extremely tiny share of the lime market prior to the final rule (about 1 percent nationally), and even a fairly large percentage increase in imports shows up as a very small change in absolute terms. High transportation costs are expected to prevent significant replacement of domestic lime with imported lime.

To examine the historical supply responsiveness in the lime market, we estimated the supply elasticity for lime using data from 1983–2001. These estimates capture the overall change in the quantity of lime supplied in response to a change in the real (inflation-adjusted) price of lime, including any entry or exit of captive suppliers from the market. Based on estimates obtained from the econometric model, the domestic lime supply elasticity was 1.24 at the average price and quantity for the period and 0.98 using the lime price and quantity for 1997, the baseline year for the EIA. The value for the baseline year implies that a 1 percent increase in price would lead lime producers to increase their lime production by 0.98 percent, other things being equal.

For the lime price to remain constant due to entry into the commercial market by captive suppliers, that entry would need to be sufficient that it led to the market supply curve being perfectly elastic. There is no evidence for a perfectly elastic market supply curve due to large-scale entry based on historical estimates of the responsiveness of lime supply to changes in real price.

There are substitutes for lime in many of the markets in which it competes, such as crushed limestone, caustic soda, soda ash, and other products. However, unless the alternatives are perfect substitutes, this does not imply that the price of lime will not increase in response to an increase in production costs.

The fact that lime prices have not increased in recent years despite plant closures and increases in real prices in no way implies that those events do not exert upward pressure on prices. The

relevant comparison is the price with and without those events, not before and after they occur. It is expected that prices would have been even lower if there had not been closures and increases in input prices.

As outlined in the responses to these comments, there is no evidence to support the claim that the assumption that lime price will increase is erroneous, and that the estimated economic impact of the final rule is understated.

*Comment:* One commenter stated that the EPA economic model for the lime market assumes a nationally perfectly competitive market, but lime prices are primarily dictated by large producers who sell capacity regardless of price.

*Response:* This comment suggests that large lime producers have market power and, therefore, face a downward sloping demand curve and have some ability to set prices. If large lime producers do possess market power, then profit-maximizing behavior would imply that they would restrict output below the levels expected under perfect competition in order to increase market price to the point that their marginal revenue is equal to their marginal cost. The large producers may have lower marginal costs such that the resulting price makes it difficult for the small producers that take the market price as given to remain in business. However, the presence of market power in the lime industry would tend to increase prices relative to the perfectly competitive case, not decrease them.

*Comment:* One commenter was concerned over EPA's use of the Acute Exposure Guideline Level (AEGL) in assessing the health risk associated with HCl. While not directly objecting to the conclusions reached by EPA, the commenter noted that the intended use of the AEGL, according to the National Research Council, is in conjunction with "once in a lifetime" exposures for emergency exposures ranging from 10 minutes to 8 hours. Because the AEGL values are intended to be used in conjunction with a single lifetime exposure, they can be higher than short term limits recommended for populations with repeated exposures. It is not clear in the description of the industry analysis, if in their use of AEGL they were contemplating a once in a lifetime exposure or whether exposures would be occurring repeatedly. The commenter stated that EPA should explicitly state how they believe AEGL values should be used in their risk assessment process and what are the possible exposure levels to the public. The commenter was also troubled by the use in the rationale of

both the reference concentration (estimated daily exposure that over a lifetime is not likely to result in significant noncancer effect in humans) and the AEGL (once in a lifetime exposure).

The commenter asked that EPA clarify their position on the use of AEGL values for environmental risk assessments, and whether its use represents a "reasonable methodology" and "consistent with EPA methodology" as claimed in the preamble.

*Response:* In order to evaluate short-term exposure to hydrochloric acid, EPA reviewed the available acute dose-response values for this compound. Among these, the Calliope reference exposure level (REL) and AEGL-1 values (2.1 and 2.7 mg/M<sup>3</sup>, respectively) were found to be the most health protective. Since these benchmarks were effectively the same, and AEGL values are products of a Federal effort in which EPA participates, we gave priority to the AEGL. Therefore, the AEGL-1 selected for analysis represented the most appropriate value.

*Comment:* Several commenters stated the final rule should not require HCl testing of all kilns. The commenters note that in recent years, many lime plants have been forced to idle or infrequently operate kilns at operating plants due to increased fuel cost, reduced customer demand, *etc.*, and start up of every kiln for the purpose of conducting HCl testing will require significant expenditures. This will also result in PM and other emissions that otherwise would not be generated. As a result, it was requested the final rule be written to provide state agencies with the discretion to determine whether testing of all kilns at a lime plant is necessary in order to demonstrate that a plant is an area source.

*Response:* In the final NESHAP, we have included language allowing the permitting authority discretion concerning whether idle kilns must be tested.

*Comment:* Several commenters stated that performance testing should be conducted under "representative" conditions rather than under the "highest production level reasonably expected to occur." One commenter noted inconsistencies between what is proposed in Table 4 in the proposed rule and what is required under the General Provisions at 40 CFR 63.7(e)(1). The EPA has recently amended the Cement MACT to fix similar inconsistencies, and the commenter suggested the lime MACT be similarly revised.

*Response:* We have written the requirement in the final rule to require

testing under representative conditions, which is in agreement with the language in the General Provisions.

*Comment:* Two commenters stated the final rule should provide a risk-based exemption from the entire rule (not just from HCl standards) for plants at which modeled risks are below health based thresholds. One commenter noted that EPA recently solicited comment on providing risk-based exemptions in proposed MACT standards for several source categories. This commenter strongly supported the view that such exemptions should be provided in MACT standards that impose substantial costs while achieving negligible reductions in risks to public health and stated the lime MACT fits this description.

*Response:* Other than the decision to not regulate emissions of HCl from lime manufacturing, EPA did not consider and did not request comments on providing risk-based exemptions for lime manufacturing facilities. Although EPA is aware that risk-based exemptions were being discussed in other proposed rules, no decisions have been made by the Agency regarding risk-based exemptions and application to industry groups or individual plants. Due to the uncertainty of how these exemptions would be structured, it would not be appropriate to include these site specific risk-based exemptions in the final rule. Including such a substantive statement change in the final rule without allowing the general public an opportunity to comment would be a violation of the notice and comment requirements found in section 307(d) of the CAA, especially in light of the fact that their inclusion in other proposed rules have generated significant negative public comment.

*Comment:* One commenter stated the benefits analysis is based on inaccurate assumptions, and presented conclusions regarding reductions in metal HAP that are greatly overstated.

The commenter also claimed that the emission factor for existing uncontrolled stone handling operations is also overstated; it was derived using AP-42 emission factors with "E" ratings. The commenter stated that it presented to the SBREFA Panel a more reliable emission factor for these units that is rated "C" and was revised in 1995.

In addition, the commenter claimed that EPA overstated the amount of new capacity and the emissions from new rotary kilns. The commenter stated, "EPA should either reflect (our) estimates in the preamble to the final rule, or provide a reasoned response to our comments that EPA's estimates are overstated" \* \* \* we believe the best

estimate of metal HAP reductions is 3.5 tons (7,000 pounds) per year. Based on the 56 lime plants predicted to be subject to the MACT rule, this translates into an annual reduction in metal HAP per lime plant of 124 pounds.

*Response:* We reviewed the new information on PM emissions presented by the commenter, as well as their calculations of baseline emissions and emission reductions resulting from the final rule. In the case of baseline emissions from kilns and coolers, the information provided by the commenter is a more reasonable estimate than the emission factors we used at proposal. Therefore, we revised our baseline PM emissions estimates to incorporate this new information. In the case of emissions from PSH operations, we based our emission estimates on a mass balance approach. This method is reasonably accurate, and we did not revise baseline emission estimates for PSH operations. This resulted in our estimate of metal HAP emission reductions to be changed to 14.4 tpy, compared to an estimate of 23 tpy.

## V. Statutory and Executive Order Reviews

### A. Executive Order 12866, Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), we are required to determine whether the regulatory action is "significant" and, therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, OMB notified EPA at proposal that it considered this rulemaking a "significant regulatory action" within the meaning of the Executive Order. The EPA submitted the

proposed rule to OMB for review. Changes made in response to OMB suggestions or recommendations are documented and included in the public record. The OMB has informed EPA that it considers this final action nonsignificant. Therefore, it is not subject to further OMB review. The OMB was briefed on the responses to major comments, and was provided a copy of the regulation and preamble prior to publication. However, they did not request any changes in the final rule.

#### *B. Paperwork Reduction Act*

The information collection requirements in the final rule have been submitted for approval to the Office of Management and Budget under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* We have prepared an Information Collection Request (ICR) document (2072.01), and a copy may be obtained from Susan Auby by mail at U.S. EPA, Office of Environmental Information, Collection Strategies Division (2822T), 1200 Pennsylvania Avenue, NW., Washington DC 20460, by e-mail at [auby.susan@epa.gov](mailto:auby.susan@epa.gov), or by calling (202) 566-1672. You may also download a copy off the Internet at <http://www.epa.gov/icr>. The information requirements are not effective until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

The final rule will require development and implementation of an OM&M plan, which will include inspections of the control devices but will not require any notifications or reports beyond those required by the NESHAP General Provisions (40 CFR part 63, subpart A). The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the rule) is estimated to be 7,800 labor hours per year, at a total annual cost of \$621,600. This estimate

includes notifications that facilities are subject to the rule; notifications of performance tests; notifications of compliance status, including the results of performance tests and other initial compliance demonstrations that do not include performance tests; startup, shutdown, and malfunction reports; semiannual compliance reports; and recordkeeping. Total capital/startup costs associated with the testing, monitoring, reporting, and recordkeeping requirements over the 3-year period of the ICR are estimated to be \$1,000,000, with annualized costs of \$377,900.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to: Review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for our regulations are listed in 40 CFR part 9 and 48 CFR chapter 15. When the OMB approves the information collection requirements of the final rule, the EPA will amend the table in 40 CFR part 9 of currently approved ICR control numbers issued by OMB for various regulations.

#### *C. Regulatory Flexibility Analysis*

The EPA has prepared a final regulatory flexibility analysis (FRFA) in connection with the final rule. For purposes of assessing the impacts of today's final rule on small entities, a small entity is defined as (1) a small business as a lime manufacturing company with less than 500 employees; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small

entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. Despite the determination that the final rule will have no significant impact on a substantial number of small entities, EPA prepared a Small Business Flexibility Analysis that has all the components of a FRFA. An FRFA examines the impact of the final rule on small entities. The Small Business Flexibility Analysis (which is included in the economic impact analysis) is available for review in the docket, and is summarized below.

It should be noted that the small business impacts described below slightly overestimate the impacts for today's action, for they reflect the higher cost estimates (\$22.4 million) associated with the proposed rule.

Based on SBA's size definitions for the affected industries and reported sales and employment data, EPA identified 19 of the 45 companies owning potentially affected facilities as small businesses. Eight of these 45 companies manufacture beet sugar (which will not be subject to the final NESHAP), three of which are small firms. Further, an additional 3 of the 19 small companies will not be subject to the final NESHAP because they do not manufacture lime in a kiln (e.g., they are only depot or hydration facilities), and/or we do not expect them to be major sources. It is, therefore, expected that 13 small businesses will be subject to the final NESHAP. Although small businesses represent 40 percent of the companies within the source category, they are expected to incur 30 percent of the total industry annual compliance costs of \$18.0 million.

The economic impact analysis we prepared for the final NESHAP includes an estimate of the changes in product price and production quantities for the firms that the final NESHAP would affect. The analysis shows that of the facilities owned by potentially affected small firms, two may shut down rather than incur the cost of compliance with the final rule. Because of the nature of their production processes and existing controls, we expect these two firms will incur significantly higher compliance costs than the other small firms.

Although any facility closure is cause for concern, it should be noted that in general, the burden on most small firms is low when compared to that of large firms. The average annual compliance costs for all small firms is \$358,000, compared to \$592,000 per year for large firms. If the two small firms expected to incur significantly higher control costs are excluded, the average annual compliance cost for the remaining firms

will be \$205,000, which is much less than the average control costs for large firms.

The EPA's efforts to minimize small business impacts have materially improved today's final rule. Economic analysis of provisions under earlier consideration prior to the rule's proposal indicated greater impacts on small businesses than those in today's final rule. For the small companies expected to incur compliance costs, the average total annual compliance cost would have been roughly \$567,000 per small company (compared with \$358,000 in today's final rule). About 85 percent (11 firms) of those small businesses expected to incur compliance costs would have experienced an impact greater than 1 percent of sales (compared with 69 percent of those small businesses in today's final rule). And, 77 percent (10 firms) of those small businesses expected to incur compliance costs would have experienced impacts greater than 3 percent of sales (compared with 31 percent of those small businesses in today's final rule).

Before concluding that the Agency could properly certify today's final rule under the terms of the RFA, EPA conducted outreach to small entities and convened a Panel as required by section 609(b) of the RFA to obtain the advice and recommendations from representatives of the small entities that potentially would be subject to the proposed rule requirements. The Panel convened on January 22, 2002, and was comprised of representatives from OMB, the SBA Office of Advocacy, the EPA Small Business Advocacy Chair, and the Emission Standards Division of the Office of Air Quality Planning and Standards of EPA. The Panel solicited advice from eight small entity representatives (SER), including the National Lime Association (NLA) and member companies and non-member companies of the NLA. On January 30, 2002, the Panel distributed a package of descriptive and technical materials explaining the rule-in-progress to the SER. On February 19, 2002, the Panel met with the SER to hear their comments on preliminary options for regulatory flexibility and related information. The Panel also received written comments from the SER in response to both the outreach materials and the discussions at the meeting.

Consistent with RFA/SBREFA requirements, the Panel evaluated the assembled materials and small-entity comments on issues related to the elements of the initial RFA. A copy of the Panel report is included in the docket for the final rule.

The Panel considered numerous regulatory flexibility options in response to concerns raised by the SER. The major concerns included the affordability and technical feasibility of add-on controls.

These are the Panel recommendations and EPA's responses:

- Recommend that the proposed rule should not include the HCl work practice standard, invoking section 112(d)(4) of CAA.

*Response:* The proposed rule did not include an emission standard for HCl. The final rule also contains no emission standard for HCl.

- Recommend that in the proposed rule, the MPO in the quarry should not be considered as emission units under the definition of affected source.

*Response:* The MPO in the quarry were excluded from the definition of affected source in the proposed rule. They are also excluded in the final rule.

- Recommend that the proposed rule allow for the "bubbling" of PM emissions from all of the lime kilns and coolers at a lime plant, such that the sum of all kilns' and coolers' PM emissions at a lime plant would be subject to the PM emission limit, rather than each individual kiln and cooler.

*Response:* The proposed rule defined the affected source as including all kilns and coolers (among other listed emission units) at the lime manufacturing plant. This would allow the source to average emissions from the kilns and coolers for compliance determination. In the final rule we have retained averaging provisions with the following modifications. New kilns and existing kilns may be averaged together, new kilns must individually meet the 0.10 lb/tsf PM emission limit, and existing kilns subject to the 0.60 lb/tsf PM emission limit may not be included in any averaging scheme. Due to other changes in the rule, the changes in the averaging provisions do not increase the stringency of the final rule compared to the proposed rule.

- Recommend that we request comment on establishing a subcategory for existing kilns that currently have wet scrubbers for PM control because of the potential increase in SO<sub>2</sub> and HCl emissions that may result in complying with the PM standard in the proposed rule.

*Response:* We requested comment on this issue in the proposed rule. Based on the comments received, we determined that a separate subcategory for scrubber equipped kilns was not appropriate. However, we have included in the final rule separate standards for kilns with dry PM emissions control systems, and wet scrubbers. This change addresses

the underlying concern of the original comment.

- Recommend that we undertake an analysis of the costs and emissions impacts of replacing scrubbers with dry APCD and present the results of that analysis in the preamble; and that we request comment on any operational, process, product, or other technical and/or spatial constraints that would preclude installation of a dry APCD.

*Response:* We requested comment on these issues in the proposed rule and presented said analysis. We responded to all comments on these issues in the final rule.

- Recommend that the proposed rule allow a source to use the ASTM HCl manual method for the measurement of HCl for area source determinations.

*Response:* The proposed rule included this provision. This provision has been retained in the final rule.

- Recommend that we clarify in the preamble to the proposed rule that we are not specifically requiring sources to test for all HAP to make a determination of whether the lime plant is a major or area source, and that we solicit public comment on related issues.

*Response:* The preamble of the proposed rule contained this language. In the final rule, we do not specify that testing for all HAP is required. However, we do not specifically say it is precluded because these determinations are better made on a case-by-case basis by the permitting authority.

- Recommend that we solicit comment on providing the option of using COMS in place of BLDS; recommend that we solicit comment on various approaches to using COMS; and recommend soliciting comment on what an appropriate opacity limit would be.

*Response:* The preamble of the proposed rule solicited comment on these issues.

- Recommend that EPA take comment on other monitoring options or approaches, including the following: using longer averaging time periods (or greater frequencies of occurrence) for demonstrating compliance with parameter limits; demonstrating compliance with operating parameter limits using a two-tier approach; and the suitability of other PM control device operating parameters that can be monitored to demonstrate compliance with the PM emission limits, in lieu of or in addition to the parameters currently required in the draft rule.

*Response:* The preamble of the proposed rule solicited comment on these issues.

- Recommend that the incorporation by reference of Chapters 3 and 5 of the American Conference of Governmental

Industrial Hygienists (ACGIH) Industrial Ventilation manual be removed from the proposed rule.

*Response:* The proposed rule did not include this requirement. This requirement is also not present in today's final rule.

- Recommend that EPA reevaluate the assumptions used in modeling the economic impacts of the standards and conduct a sensitivity analysis using different price and supply elasticities reflective of the industry's claims that there is little ability to pass on control costs to their customers, and there is considerable opportunity for product substitution in a number of the lime industry's markets.

*Response:* The EIA does include the aforementioned considerations and analyses at proposal. In addition, we have performed additional economic sensitivity analyses for the final rule.

In summary, to better understand the implications of the proposed rule from the industries' perspective, we engaged with the lime manufacturing companies in an exchange of information, including small entities, during the overall rule development. Prior to convening the Panel, we had worked aggressively to minimize the impact of the proposed rule on small entities, consistent with our obligations under the CAA. These efforts are summarized below.

- Lime manufacturing operations at beet sugar plants, of which three are small businesses, will not be affected sources.

- Lime manufacturing plants that produce hydrated lime only will not be affected sources as well.

- We proposed PM emission limits which allow the affected source, including small entities, flexibility in choosing how they will meet the emission limit. And in general, the emission limitations selected are all based on the MACT floor, as opposed to more costly beyond-the-MACT-floor options that we considered. An emission limit for mercury was rejected since it would have been based on a beyond-the-MACT-floor control option.

- We proposed that compliance demonstrations for PSH operations be conducted monthly rather than on a daily basis. This reduced the amount of records needed to demonstrate compliance with the rule when implemented. Furthermore, we proposed the minimum performance testing frequency (every 5 years), monitoring, recordkeeping, and reporting requirements specified in the General Provisions (40 CFR part 63, subpart A).

- Finally, many lime manufacturing plants owned by small businesses will not be subject to the proposed standards because they are area sources.

We received several comments on the economic analysis for the proposed rule. The majority of these comments related to the analysis in general, rather than the initial regulatory flexibility analysis. Two comments that specifically addressed small business concerns follow.

*Comment:* One commenter claimed that EPA did not perform a sufficient sensitivity analysis of different price and supply elasticities in the EIA as recommended in the Panel's final report.

*Response:* We estimated the market supply and demand elasticities for lime. The values from the preferred model for 1997 are very close to the primary elasticities used in the main text of the EIA for the proposed rule and are well within the range of elasticities used in the sensitivity analysis in Appendix B of the EIA for the proposed rule. In addition to the preferred model, numerous alternative models were estimated. As with any modeling exercise, there were some differences in results across different model specifications. However, the results were generally similar across specifications and there were no cases in which the estimated supply or demand elasticity fell outside the ranges currently used in the Appendix B sensitivity analysis included in the EIA. Thus, the current analysis adequately responds to SBREFA panel recommendations that a reasonable sensitivity analysis be employed and the empirical evidence is supportive of the current scenario presented in the main text.

*Comment:* One commenter claimed that although EPA has indicated its rule will have larger impacts on small businesses than large ones, the disparity is even greater than EPA estimates. The reductions in pre-tax earnings presented in the EIA understate losses for small firms because the costs of implementation will be higher than EPA estimates and the price of lime will not increase. They also state that even if only 2 to 3 of the 14 small lime firms close, that would still be closure of 14 percent to 21 percent of the small lime firms in the domestic industry. This seems to be such a significant economic impact that it should encourage the EPA to seriously consider additional ways to minimize the impact on small businesses.

*Response:* It is unclear what the basis for the first part of this comment is (it seems the same claims they are making

for small firms would also apply to large firms). As far as the second part, to the extent that actual costs differ from EPA estimates, it is possible that the actual losses experienced by firms will be higher or lower than presented in the EIA. However, the costs of implementation currently used for analysis reflect EPA's best estimate of actual costs. The assertion that lime prices cannot increase in response to an increase in production costs is not credible.

We also disagree that the number of small firms at risk of closure, 2 to 3, can be considered a significant number in the context of SBREFA. In any case, EPA has seriously considered ways to minimize the impact on small businesses based on comments from industry and has substantially reduced the costs of the rule relative to the draft of the rule we were considering prior to the small business advocacy review panel. As previously discussed, EPA, along with the SBA and the OMB, convened a panel under the authority of SBREFA to talk with small business representatives on how to mitigate potential impacts to small businesses associated with the lime manufacturing NESHAP. This panel yielded a report that included many recommendations on how potential impacts to small businesses from the proposal could be mitigated. All of these recommendations are reflected in the final rule.

#### *D. Unfunded Mandates Reform Act*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, we generally would be required to prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and tribal governments, in aggregate, or by the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least-costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the



Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we would be required to have developed under section 203 of the UMRA a small government agency plan. The plan will be required to provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of our regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We have determined that the final rule does not contain a Federal mandate that may result in expenditures of \$100 million or more by State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The total cost to the private sector is approximately \$22.4 million per year. The final rule contains no mandates affecting State, local, or tribal governments. Thus, today's final rule is not subject to the requirements of sections 202 and 205 of the UMRA.

We have determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them.

#### *E. Executive Order 13132, Federalism*

Executive Order 13132 (64 FR 43255, August 10, 1999) requires us to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

Under Section 6 of Executive Order 13132, we may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or we consult with State and local officials early in the process of developing the proposed regulation. We also may not issue a

regulation that has federalism implications and that preempts State law unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

If we comply by consulting, Executive Order 13132 requires us to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS would be required to include a description of the extent of our prior consultation with State and local officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when we transmit a draft final NESHAP with federalism implications to OMB for review pursuant to Executive Order 12866, we would be required to include a certification from the Agency's Federalism Official stating that we have met the requirements of Executive Order 13132 in a meaningful and timely manner.

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The final rule will not impose directly enforceable requirements on States, nor will it preempt them from adopting their own more stringent programs to control emissions from lime manufacturing facilities. Moreover, States are not required under the CAA to take delegation of Federal NESHAP and bear their implementation costs, although States are encouraged and often choose to do so. Thus, Executive Order 13132 does not apply to the final rule.

#### *F. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments*

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." The final rule does not have tribal implications, as specified in Executive Order 13175. There are no lime manufacturing plants located on tribal land. Thus, Executive Order 13175 does not apply to the final rule.

#### *G. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks*

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, we would be required to evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by us.

We interpret Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks.

#### *H. Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use*

The final rule is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Although compliance with the final rule could possibly lead to increased electricity consumption as sources may replace existing wet scrubbers with venturi wet scrubbers that require more electricity, the final rule will not require that venturi scrubbers be installed, and in fact, there are some alternatives that may decrease electrical demand. Further, the final rule will have no effect on the supply or distribution of energy. Although we considered certain fuels as potential bases for MACT, none of our MACT determinations are based on fuels. Finally, we acknowledge that an interpretation limiting fuel use to the top 6 percent of 'clean HAP' fuels (if they existed) could potentially have adverse implications on energy supply.

#### *I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement

activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to the OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

The final rule involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 5, 5D, 9, 17, 18, 22, 320, 321. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 5D, 9, 22, and 321. The search and review results have been documented and are placed in the docket (OAR-2002-0052) for the final rule.

The three voluntary consensus standards described below were identified as acceptable alternatives to EPA test methods for the purposes of the final rule.

The voluntary consensus standard ASME PTC 19-10-1981-Part 10, "Flue and Exhaust Gas Analyses," is cited in the final rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME PTC 19-10-1981-Part 10 is an acceptable alternative to Method 3B.

The voluntary consensus standard ASTM D6420-99, "Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (GC/MS)," is appropriate in the cases described below for inclusion in the final rule in addition to EPA Method 18 codified at 40 CFR part 60, appendix A, for the measurement of organic HAP from lime kilns.

Similar to EPA's performance-based Method 18, ASTM D6420-99 is also a performance-based method for measurement of gaseous organic compounds. However, ASTM D6420-99 was written to support the specific use of highly portable and automated GC/MS. While offering advantages over the traditional Method 18, the ASTM method does allow some less stringent criteria for accepting GC/MS results than required by Method 18. Therefore, ASTM D6420-99 is a suitable alternative to Method 18 only where the

target compound(s) are those listed in Section 1.1 of ASTM D6420-99, and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume.

For target compound(s) not listed in Section 1.1 of ASTM D6420-99, but potentially detected by mass spectrometry, the final rule specifies that the additional system continuing calibration check after each run, as detailed in Section 10.5.3 of the ASTM method, must be followed, met, documented, and submitted with the data report even if there is no moisture condenser used or the compound is not considered water soluble. For target compound(s) not listed in Section 1.1 of ASTM D6420-99, and not amenable to detection by mass spectrometry, ASTM D6420-99 does not apply.

As a result, EPA will cite ASTM D6420-99 in the final rule. The EPA will also cite Method 18 as a GC option in addition to ASTM D6420-99. This will allow the continued use of GC configurations other than GC/MS.

The voluntary consensus standard ASTM D6735-01, "Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method," is an acceptable alternative to EPA Method 320 for the purposes of the final rule provided that the additional requirements described in Section 63.7142 of the final rule are also addressed in the methodology.

In addition to the voluntary consensus standards EPA uses in the final rule, the search for emissions measurement procedures identified 15 other voluntary consensus standards. The EPA determined that 12 of these 15 standards identified for measuring emissions of the HAP or surrogates subject to emission standards in the final rule were impractical alternatives to EPA test methods for the purposes of this rule. Therefore, EPA does not intend to adopt these standards for this purpose. The reasons for this determination can be found in the docket for the final rule.

Three of the 15 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of the final rule because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, "Flow Measurement by Velocity Traverse," for EPA Method 2 (and possibly 1); ASME/BSR MFC 12M, "Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters," for EPA Method 2; and ASTM D6348-98, "Determination of Gaseous Compounds by Extractive Direct Interface Fourier

Transform (FTIR) Spectroscopy," for EPA Method 320.

The standard ASTM D6348-98, "Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy" has been reviewed by the EPA and comments were sent to ASTM. Currently, the ASTM Subcommittee D22-03 is undertaking a revision of ASTM D6348-98. Upon successful ASTM balloting and demonstration of technical equivalency with the EPA FTIR methods, the revised ASTM standard could be incorporated by reference for EPA regulatory applicability.

Section 63.7112 and Table 4 to subpart A of 40 CFR part 63 list the EPA testing methods included in the final rule. Under §§ 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

#### J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the SBREFA, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the final rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The final rule will be effective on January 5, 2004.

#### List of Subjects in 40 CFR Part 63

Administrative practice and procedure, Air pollution control, Environmental protection, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: August 25, 2003.  
Marianne Lamont Horinko,  
Acting Administrator.

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of the Federal Regulations is to be amended as follows:



**PART 63—[AMENDED]**

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

**Subpart A—[Amended]**

■ 2. Part 63 is amended by adding subpart AAAAA to read as follows:

**Subpart AAAAA—National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants**

Sec.

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Table 8 to Subpart AAAAA of Part 63—Applicability of General Provisions to Subpart AAAAA

**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 PSH 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 and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

#### 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:

$$E = (C_k Q_k + C_c Q_c) / PK \quad (\text{Eq. 1})$$

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:

$$E_T = \sum_{i=1}^n E_i P_i / \sum_{i=1}^n P_i \quad (\text{Eq. 2})$$

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:

$$E_{TN} = \sum_{j=1}^m E_j P_j / \sum_{j=1}^m P_j \quad (\text{Eq. 3})$$

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 to 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) You must operate in accordance with the SSMP during periods of startup, shutdown, and malfunction.

(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 the SSMP. 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.

**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,  $\geq 3$ .

(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.

**Tables to Subpart AAAAA of Part 63**

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/ton).
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/ton. 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/ton.
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/ton 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/ton (if you are averaging only existing kilns) or 0.10 lb/ton (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/ton.
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.

TABLE 2 TO SUBPART AAAAA OF PART 63.—OPERATING LIMITS—Continued

[As required in § 63.7090(b), you must meet each operating limit in the following table that applies to you.]

For . . .	You must . . .
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).
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.

TABLE 3 TO SUBPART AAAAA OF PART 63.—INITIAL COMPLIANCE WITH EMISSION LIMITS—Continued

[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 . . .
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.
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 $\pm 5$ percent of the mass rate of stone feed over its operating range.

TABLE 4 TO SUBPART AAAAA OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

[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 . . .
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.
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).

TABLE 4 TO SUBPART AAAAA OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

[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 . . .
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.
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 $\pm 1\%$ and the continuous pressure drop measurement device must be accurate within $\pm 1\%$ ).
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.

TABLE 5 TO SUBPART AAAAA OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS—Continued

[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 . . .
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 $\pm 1\%$ and the continuous pressure drop measurement device must be accurate within $\pm 1\%$ ).
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 semi-annually 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 semi-annual 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



TABLE 6 TO SUBPART AAAAA OF PART 63.—PERIODIC MONITORING FOR COMPLIANCE WITH OPACITY AND VISIBLE EMISSIONS LIMITS—Continued

[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 . . .
2. Any building subject to a VE limit, according to item 8 of Table 1 to this subpart.	a. No VE .....	<p>(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.</p> <p>(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;</p> <p>(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;</p> <p>(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</p> <p>(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).</p>

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 .....	<p>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;</p> <p>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;</p> <p>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);</p> <p>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</p>	<p>Semiannually according to the requirements in § 63.7131(b).</p> <p>Semiannually according to the requirements in § 63.7131(b).</p> <p>Semiannually according to the requirements in § 63.7131(b).</p> <p>Semiannually according to the requirements in § 63.7131(b).</p>

TABLE 7 TO SUBPART AAAAA OF PART 63.—REQUIREMENTS FOR REPORTS—Continued

[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 . . .
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.	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). Actions taken for the event .....	Semiannually according to the requirements in § 63.7131(b).  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.	§§ 63.7081 and 63.7142 specify additional applicability determination requirements.
§ 63.1(a)(5) .....	Applicability .....	No.	
§ 63.1(a)(6) .....	Applicability .....	Yes.	
§ 63.1(a)(7)–(a)(9) .....	Applicability .....	No.	
§ 63.1(a)(10)–(a)(14) .....	Applicability .....	Yes.	Area sources not subject to subpart AAAAA, except all sources must make initial applicability determination.
§ 63.1(b)(1) .....	Initial Applicability Determination .....	Yes .....	
§ 63.1(b)(2) .....	Initial Applicability Determination .....	No.	
§ 63.1(b)(3) .....	Initial Applicability Determination .....	Yes.	
§ 63.1(c)(1) .....	Applicability After Standard Established.	Yes.	Additional definitions in § 63.7143.
§ 63.1(c)(2) .....	Permit Requirements .....	No .....	
§ 63.1(c)(3) .....	Extensions, Notifications .....	No.	
§ 63.1(c)(4)–(5) .....	Extensions, Notifications .....	Yes.	
§ 63.1(d) .....	Definitions .....	No.	See § 63.7100 for OM&M requirements.
§ 63.1(e) .....	Applicability of Permit Program .....	Yes.	
§ 63.2 .....	Units and Abbreviations .....	Yes.	
§ 63.3(a)–(c) .....	Prohibited Activities .....	Yes.	
§ 63.4(a)(1)–(a)(2) .....	Circumvention, Severability .....	No.	
§ 3.4(a)(3)–(a)(5) .....	Construction/Reconstruction .....	Yes.	
§ 63.4(b)–(c) .....	Compliance Dates .....	Yes.	
§ 63.5(a)(1)–(2) .....	Compliance Dates .....	No.	
§ 63.5(b)(1) .....	Construction Approval, Applicability ...	Yes.	
§ 63.5(b)(2) .....	Applicability .....	No.	
§ 63.5(b)(3)–(4) .....	Applicability .....	Yes.	
§ 63.5(b)(5) .....	Approval of Construction/Reconstruction.	No.	
§ 63.5(b)(6) .....	Approval of Construction/Reconstruction.	Yes.	
§ 63.5(c) .....	Approval of Construction/Reconstruction.	Yes.	
§ 63.5(d)(1)–(4) .....	Approval of Construction/Reconstruction.	Yes.	
§ 63.5(e) .....	Approval of Construction/Reconstruction.	Yes.	
§ 63.5(f)(1)–(2) .....	Compliance for Standards and Maintenance.	Yes.	
§ 63.6(a) .....	Compliance Dates .....	Yes.	
§ 63.6(b)(1)–(5) .....	Compliance Dates .....	No.	
§ 63.6(b)(6) .....	Compliance Dates .....	Yes.	
§ 63.6(b)(7) .....	Compliance Dates .....	Yes.	
§ 63.6(c)(1)–(2) .....	Compliance Dates .....	No.	
§ 63.6(c)(3)–(c)(4) .....	Compliance Dates .....	Yes.	
§ 63.6(c)(5) .....	Compliance Dates .....	No.	
§ 63.6(d) .....	Operation & Maintenance .....	Yes .....	
§ 63.6(e)(1) .....	Operation & Maintenance .....	No.	
§ 63.6(e)(2) .....	Operation & Maintenance .....	No.	

TABLE 8 TO SUBPART AAAAA OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAA—Continued  
[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
§ 63.6(e)(3) .....	Startup, Shutdown Malfunction Plan ..	Yes.	This requirement only applies to opacity and VE performance checks required in Table 4 to subpart AAAAA.
§ 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) .....	Opacity/VE Standards .....	No.	
§ 63.6(h)(4)–(h)(5)(i) .....	Opacity/VE Standards .....	Yes .....	Test durations are specified in subpart AAAAA; subpart AAAAA takes precedence.
§ 63.6(h)(5) (ii)–(iii) .....	Opacity/VE Standards .....	No .....	
§ 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.	§ 63.7110 specifies deadlines; § 63.7112 has additional specific requirements.
§ 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) .....	Extension of Compliance .....	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 .....	
§ 63.7(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.	Flares not applicable.
§ 63.8(a)(3) .....	Monitoring .....	No.	
§ 63.8(a)(4) .....	Monitoring .....	No .....	
§ 63.8(b)(1)–(3) .....	Conduct of Monitoring .....	Yes.	See § 63.7121.
§ 63.8(c)(1)–(3) .....	CMS Operation/Maintenance .....	Yes.	
§ 63.8(c)(4) .....	CMS Requirements .....	No .....	
§ 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.	See § 63.7113.
§ 63.8(d) .....	Quality Control .....	No .....	
§ 63.8(e) .....	Performance Evaluation for CMS .....	No.	
§ 63.8(f)(1)–(f)(5) .....	Alternative Monitoring Method .....	Yes.	See data reduction requirements in §§ 63.7120 and 63.7121.
§ 63.8(f)(6) .....	Alternative to Relative Accuracy test ..	No.	
§ 63.8(g)(1)–(g)(5) .....	Data Reduction; Data That Cannot Be Used.	No .....	
§ 63.9(a) .....	Notification Requirements .....	Yes .....	See § 63.7130.
§ 63.9(b) .....	Initial Notifications .....	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(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 .....	
§ 63.9(g) .....	Additional CMS Notifications .....	No .....	Not required for operating parameter monitoring.
§ 63.9(h)(1)–(h)(3) .....	Notification of Compliance Status .....	Yes.	Not required for operating parameter monitoring.
§ 63.9(h)(4) .....	Notification of Compliance Status .....	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.	

TABLE 8 TO SUBPART AAAAA OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART AAAAA—Continued  
[As required in § 63.7140, you must comply with the applicable General Provisions requirements according to the following table.]

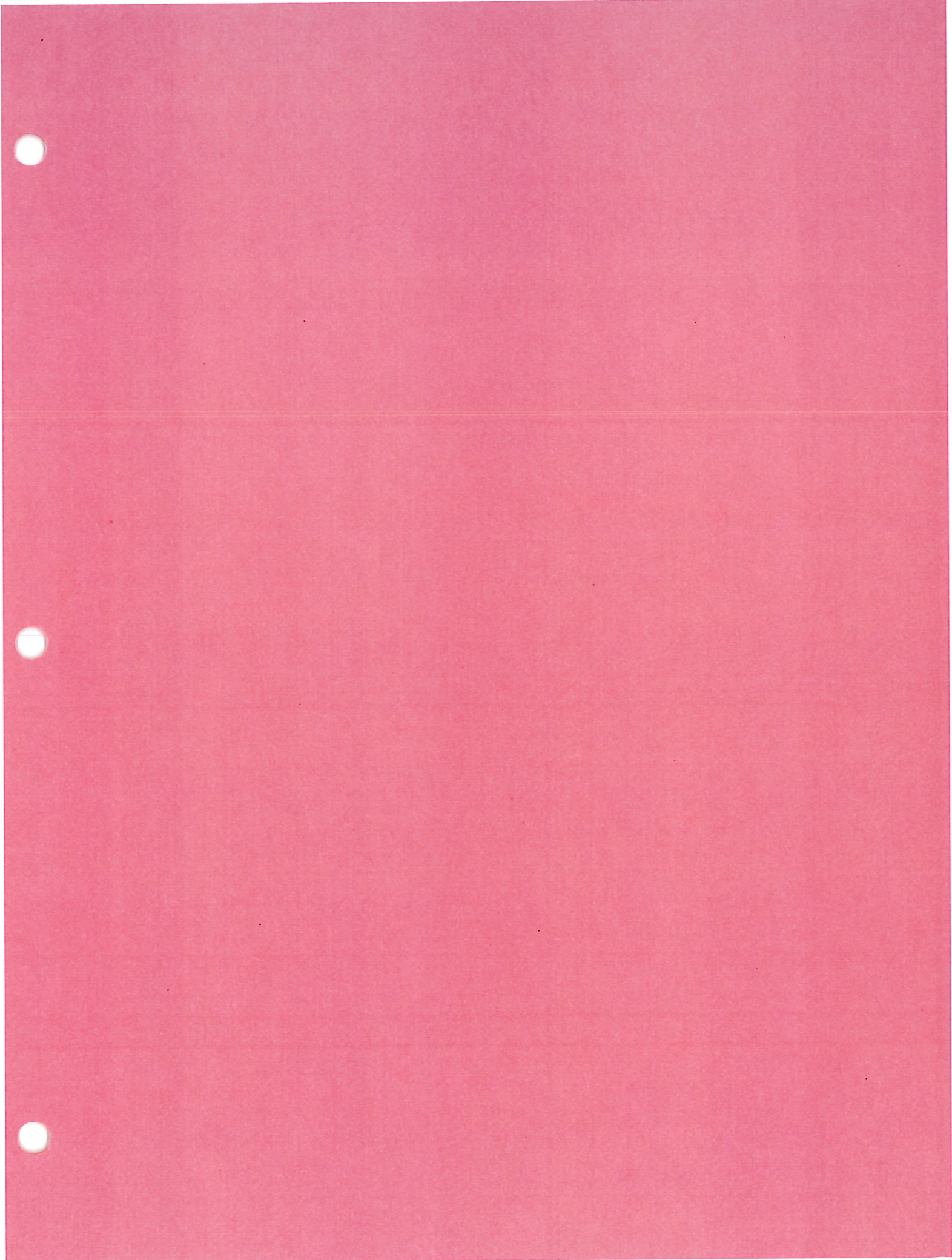
Citation	Summary of requirement	Am I subject to this requirement?	Explanations
§ 63.10(a) .....	Recordkeeping/Reporting General Requirements.	Yes .....	See §§ 63.7131 through 63.7133.
§ 63.10(b)(1)–(b)(2)(xii) .....	Records .....	Yes.	See § 63.7132.
§ 63.10(b)(2)(xiii) .....	Records for Relative Accuracy 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 .....	
§ 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.	See specific requirements in subpart AAAAA, see § 63.7131.
§ 63.10(d)(5) .....	Startup, Shutdown, Malfunction Reports.	Yes.	
§ 63.10(e) .....	Additional CMS Reports .....	No .....	Flares not applicable.
§ 63.10(f) .....	Waiver for Recordkeeping/Reporting ..	Yes.	
§ 63.11(a)–(b) .....	Control Device Requirements .....	No .....	
§ 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.	

\* \* \* \* \*

[FR Doc. 03–23057 Filed 12–31–03; 8:45 am]

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## NATIONAL LIME ASS'N v. E. P. A.

NO. 78-1385.

627 F.2d 416 (1980)

*NATIONAL LIME ASSOCIATION, Petitioner,*

v.

*ENVIRONMENTAL PROTECTION AGENCY and Douglas M. Costle, Administrator of Environmental Protection Agency.**United States Court of Appeals, District of Columbia Circuit.**Argued December 11, 1979.**Decided May 19, 1980.*

*Arthur A. March, Englewood, Colo., a member of the bar of the Supreme Court of Connecticut pro hac vice by special leave of court with whom Henry W. Leeds, Washington, D. C., was on the brief, for petitioner.*

*Earl Salo, Atty., EPA, Washington, D. C., with whom Joan Z. Bernstein, Gen. Counsel, EPA, James W. Moorman, Asst. Atty. Gen., Angus MacBeth and Raymond W. Mushal, Attys., Dept. of Justice, Washington, D. C., were on the brief, for respondents.*

*Before TAMM and WALD, Circuit Judges, and GREENE, United States District Judge for the District of Columbia.*

Opinion for the Court filed by Circuit Judge WALD.

WALD, Circuit Judge:

The National Lime Association (NLA), representing ninety percent of this country's commercial producers of lime and lime hydrate (the industry), challenges the new source performance standards (NSPS) for lime manufacturing plants issued by the Environmental Protection Agency (EPA, Administrator or Agency) under § 111 of the Clean Air Act (the Act), 42 U.S.C. § 7411 (Supp. I 1977). The standards limit the mass of particulate that may be emitted in the exhaust gas from all lime-hydrating and from certain lime-manufacturing facilities and limit the permitted visibility of exhaust gas emissions from some facilities manufacturing lime. We find inadequate support in the administrative record for the standards promulgated and therefore remand to the Administrator.

# I. RELEVANT PARTICULARS OF THE LIMESTONE INDUSTRY

## A. THE INDUSTRY

In sheer size and weight of production, the limestone industry ranks among the largest in this country. Limestone production in the United States ranks second only to sand and gravel in commodity tonnage and exceeds petroleum, coal and iron ore in volume produced. Limestone deposits can be found beneath an estimated fifteen to twenty percent of the surface of the United States and occur in every state. Total national production approximates twenty-two million tons annually and derives from plants in over forty states.<sup>1</sup>

The recent development of two important industrial uses for lime<sup>2</sup> has ensured the continuing growth of production<sup>3</sup> despite a decline in agricultural use.<sup>4</sup> The industry is capital-intensive with declining employment, but because so many other industrial processes depend on the use of lime, any decline in production would have "a large multiplier effect on U.S. employment."<sup>5</sup>

## B. THE PRODUCTION OF LIME FROM LIMESTONE

The process by which commercially valuable lime is produced is relatively simple. Limestone is quarried, crushed, sized and fed into a kiln where it is subjected to high temperatures (1100°C/2000°F). By a process

[627 F.2d 423]

known as "calcination," the heating ("burning") of limestone produces quicklime, a soft, porous, highly reactive material commonly used in industry. As might be expected, the process generates a substantial quantity of dust, or in the language of the Agency, particulate matter, sufficiently lightweight to be carried in the exhaust gas and emitted from the kiln. The particulate matter thus released is composed of partially burned limestone, raw limestone feed, dead quicklime. Typically, the process also releases sulfur dioxide (SO<sub>2</sub>).<sup>7</sup>

EXHIBIT

tabbles



Almost ninety percent of total United States lime production is processed in rotary kilns.<sup>8</sup> Uncontrolled emissions from rotary kilns have been reported to run from 150 to 200 pounds per ton of lime produced, roughly five percent of the feed poundage and nine percent of the produce.<sup>9</sup> A typical lime plant<sup>10</sup> producing 500 tons per day from a rotary kiln, conforming to typical state pollution-control standards,<sup>11</sup> emits about 150 megagrams (165 tons) of particulate matter per year. Rotary kilns produce a greater volume of particulate emissions than the formerly widely used vertical kilns but they are also the only kilns which can retain product quality while burning coal, a fuel on which the industry has become increasingly dependent.<sup>12</sup>

[627 F.2d 424]

### C. THE PRODUCTION OF HYDRATED LIME

A comparatively small amount (ten percent) of all lime produced is further processed into hydrated or slaked lime. This is done by adding water to lime and introducing the mixture into an agitated hydrator. An exothermic reaction occurs and a fluffy, dry, white powder, known as hydrated lime, is the result.<sup>13</sup> Particulate matter is carried off in the steamy exhaust emitted from the hydration process.

### D. EMISSIONS CONTROL IN THE PRODUCTION OF LIME

Rotary kilns here and abroad have employed several different methods of emissions controls including the fabric filter baghouse, the electrostatic precipitator (ESP), the high energy scrubber, and the gravel bed filter.<sup>14</sup> One survey showed that of eighty-five domestic rotary kilns, twenty-four percent used a baghouse, thirty-one percent used a high energy scrubber and eight percent used an ESP.<sup>15</sup> However, use of the baghouse method is increasing because this method requires less energy and does not itself create additional problems of pollution control.<sup>16</sup>

EPA has identified baghouses, ESPs and scrubbers as "best systems" of emissions control for rotary lime kilns.<sup>17</sup>

#### BAGHOUSES

The operation of baghouses and electrostatic precipitators was briefly explained in our initial review of EPA's performance standards for portland cement plants, *Portland Cement Association v. Ruckelshaus*, 486 F.2d 375, 390-91 (D.C.Cir. 1973), *cert. denied*, 417 U.S. 921, 94 S.Ct. 2628, 41 L.Ed.2d 226 (1974) [hereinafter cited as *Portland Cement I*]. The baghouse method employs fabric filters ("bags"), situated within an enclosed area (a "house"), to remove particulate from the kiln exhaust gas which is channeled through the house.

As the exhaust gas passes through, a dust cake forms on the filters. The cake itself improves filtration efficiency, but from time to time the filters must be cleaned. This is done by forcing a reverse gas flow through the fabric, thus releasing the cake for disposal.

EPA acknowledges that fabric filter effectiveness is primarily a function of kiln exhaust particle size distribution, fabric type, fabric age and maintenance history.<sup>18</sup>

#### ELECTROSTATIC PRECIPITATORS

Under this method, "dust particles are charged [by discharge electrodes] and pass through an electrical field [collector plates] of the opposite charge, thus causing the dust to be precipitated out of the exhaust gas . . ." *Portland Cement I*, 486 F.2d at 390. Two basic criteria must be met before an ESP can be utilized: (1) the suspended particle must be able to accept an electric charge; and (2) the particle must then pass through an electric field of sufficient strength to ensure removal of the particulate from the gas stream at the desired efficiency.

Precipitability is a function of the chemical composition of the dust particles, and will vary with the different kinds of material that make up the kiln exhaust dust (limestone, quicklime, fly ash, calcium sulfate, etc.).<sup>19</sup> Assuming precipitability, the two main factors influencing the efficiency of a precipitator are the gas velocity and treatment time. The ESP method experiences a relatively low collection efficiency on submicron particles.

[627 F.2d 425]

Although most particles collected by an ESP fall by gravity into waiting hoppers, programmed rapping of the electrodes is also required to keep the collector plates and discharge electrodes clean. As with the baghouse method, the dust collected is dry and may be disposed of in a variety of ways. A high level of maintenance skill is needed to keep an ESP in operation at design conditions.

#### SCRUBBERS

Scrubbers operate on the principle that wet particles are easier to control than dry. High pressure (or high energy) scrubbers of the type EPA considers capable of meeting the promulgated standards are those which because of their design increase the likelihood of contact between particle and water.

The most common high pressure drop scrubber used for controlling emissions from rotary lime kilns is the venturi scrubber. This scrubber operates by accelerating the velocity of the exhaust gas through a narrow venturi-shaped throat, where it is then brought into contact at great force with a spray of water. The particles thus dampened coalesce to form a slurry that can then be collected by a comparatively simple water-gas separation device. The separated gas is then released into the atmosphere.

The efficiency of particulate removal is a direct function of energy input, measured by pressure drop across the venturi throat.<sup>20</sup> Gas-water contact in the venturi scrubber is so thorough that even submicron particles are removed. Although low pressure drop scrubbers use less energy than high pressure drop scrubbers, even a low efficiency scrubber requires more energy than either the baghouse or the ESP. The slurry which is the by-product of scrubber use is deposited in ponds, where the collected particulate settles out from the scrubbing water. The "clean" scrubbing water is then reused. Under present law settling ponds must be located so that they do not receive excessive rainwater run-off, causing overflow into local navigable waters.

### E. EMISSIONS CONTROL IN THE PRODUCTION OF HYDRATED LIME



Hydration emissions have been shown to be most effectively controlled by wet scrubbers and they are the *only* system of emission reduction considered by EPA for lime hydrators.<sup>21</sup>

The most common type of scrubber used on lime hydrators is the wetted fan type with centrifugal separation. In this scrubber water is sprayed into the center of a draft fan where it is forced to mix with the exhaust gas. More water is sprayed just after the fan into the duct carrying this gas-water mixture. The dust laden slurry water is then removed from the cleaned gas stream by centrifugal separation and the "scrubbed" gas is then vented to the atmosphere.

Slurry water is returned immediately to the hydrator for reuse; the hydration process requires the addition of water and the captured dust seems to contribute to, rather than interfere with, the production of hydrate. Recycling the slurry water eliminates the settling ponds and waste sludge disposal problems usually associated with particulate scrubbers.

## II. PROCEDURAL HISTORY

Section 111 of the Clean Air Act, formerly 42 U.S.C. § 1857c-6 (1976) (repealed 1977), now 42 U.S.C. § 7411 (Supp. I 1977), authorizes the Administrator to limit the air pollutants that can lawfully be emitted from newly constructed<sup>22</sup> or modified<sup>23</sup>

[627 F.2d 426]

plants. This the Administrator can do by promulgating new source performance standards requiring new or modified plants to meet standards which can be met through application of the best system of emission reduction (considering costs) which has been "adequately demonstrated." The purpose is to assure that new or modified plants will not create significant new air pollution problems.<sup>24</sup>

On May 3, 1977, EPA added lime manufacturing plants to the list of sources that "may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare" pursuant to section 111(b) of the Clean Air Act, 42 U.S.C. § 1857c-6(b)(1)(A) (1976) (repealed 1977).<sup>25</sup> 42 Fed.Reg. 22510 (1977). At the same time, EPA proposed NSPS for lime plants. 42 Fed.Reg. 22506 (1977). The information underlying both actions was contained in the SSEIS.<sup>26</sup>

Although lime plants were determined to be sources of nitrogen oxides, carbon monoxide and sulfur dioxide as well as particulates, standards of performance were proposed and ultimately promulgated only with respect to particulate matter.<sup>27</sup> Furthermore, of the various types of kilns that may be used in the calcination of limestone, only rotary kilns are regulated by the standards.<sup>28</sup>

[627 F.2d 427]

The kiln standards limit emissions<sup>29</sup> to 0.15 kilogram of particulate matter per megagram of limestone feed (0.3 pound per ton) and ten percent "opacity."<sup>30</sup> The owner or operator of an affected facility is required by the regulations to monitor continuously the opacity of emissions. Where the scrubber method<sup>31</sup> is used for control, both the opacity standard<sup>32</sup> and the opacity monitoring requirement are waived, and the pressure drop and liquid supply pressure of the scrubber must be monitored instead.<sup>33</sup>

The standard proposed and promulgated for lime hydrators limits emissions to 0.075 kilogram of particulate matter per megagram of lime feed (0.15 pound per ton). No opacity standard was set.<sup>34</sup> The hydrator standard requires that the electric current and the liquid supply pressure of the scrubbers<sup>35</sup> used to control emissions be monitored continuously.

The standards promulgated for particulate emissions are considerably stricter than the average applicable state regulations already in effect. Plants conforming to the NSPS here would—in the case of rotary kilns—be required to emit less than one-third the particulate permitted under average state regulations and—in the case of hydrators—less than one-sixth the particulate permitted by these regulations. See SSEIS 4-15.

Evidently, EPA had engaged in a dialogue with the NLA concerning the anticipated NSPS for at least a year before the standards were proposed.<sup>36</sup> After publication of the proposed standards on May 3, 1977,<sup>37</sup> EPA received additional written comments both from the NLA and from others and on June 16, 1977 held a public meeting to "provide[ ] an opportunity for oral presentations and comments on the standards."<sup>38</sup>

[627 F.2d 428]

Final responses to some of the comments received were issued in a final support statement document in October 1977.<sup>39</sup> The final notice of rulemaking was published March 7, 1978.<sup>40</sup> Except for two minor changes the final standards did not differ from those proposed ten months earlier.<sup>41</sup> A petition for review was timely filed in this court, the exclusive court of review of new source performance standards.<sup>42</sup>

## III. PREVIOUS REVIEW UNDER SECTION 111

As amended in 1977, section 111 of the Clean Air Act requires the Administrator to prescribe standards of performance for new statutory sources that reflect

the degree of emission limitation and the percentage reduction achievable through the application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, any nonair quality health and environmental impact and energy requirements), the Administrator determines has been adequately demonstrated. . . .

42 U.S.C. § 7411(a) (Supp. I 1977).<sup>43</sup> As the court of exclusive review for NSPS, we

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have examined section 111 standards on several prior occasions. *Portland Cement Association v. Ruckelshaus*, 486 F.2d 375 (D.C.Cir.1973), *cert. denied*, 417 U.S. 921, 94 S.Ct. 2628, 41 L.Ed.2d 226 (1974) (*Portland Cement I*) (Portland cement plants); *Essex Chemical Corp. v. Ruckelshaus*, 486 F.2d 427 (D.C.Cir.1973), *cert. denied*, 416 U.S. 969, 94 S.Ct. 1991, 40 L.Ed.2d 558 (1974) [hereinafter cited as *Essex Chemical*] (sulfuric acid plants and coal-fired steam generators); *National Asphalt Paving Association v. Train*, 539 F.2d 775 (D.C.Cir.1976) (asphalt concrete plants) [hereinafter cited as *Nat'l Asphalt*]; *Portland Cement Association v. Train*, 513 F.2d 506 (D.C.Cir.), *cert. denied*, 423 U.S. 1025, 96 S.Ct. 469, 46 L.Ed.2d 399 (1975) [hereinafter cited as *Portland Cement II*].

These decisions, viewed independently, have established a rigorous standard of review under section 111. We have not deviated from the approach applied to the first NSPS to reach this court. In that case, *Portland Cement I*, we acknowledged that

[627 F.2d 430]

[w]hile we remain diffident in approaching problems of this technical complexity, . . . the necessity to review agency decisions, if it is to be more than a meaningless exercise,

requires enough steeping in technical matters to determine whether the agency "has exercised a reasoned discretion." . . . We cannot substitute our judgment for that of the agency, but it is our duty to consider whether "the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." . . . Ultimately, we believe, that the cause of a clean environment is best served by reasoned decision-making.

486 F.2d at 402 (citations omitted).

In *Essex Chemical* we reiterated this concept of the court's role in examining the basis for section 111 standards:

The judgment of the Administrator is to be weighted against his statutory function and limitations, the record searched to determine if indeed his decisions and reasons therefor are themselves reasoned, and at that point our function terminates. Our expertise is not in setting standards for emission control but in determining if the standards as set are the result of reasoned decisionmaking. Yet even this limited function requires that we foray into the technical world to the extent necessary to ascertain if the Administrator's decision is reasoned. While we must bow to the acknowledged expertise of the Administrator in matters technical we should not automatically succumb thereto, overwhelmed as it were by the utter "scientificity" of the expedition.

486 F.2d at 434. The search for reasoned decisionmaking in a world of technical expertise must continue if judicial review is to have any meaning in the statutory scheme.

Section 111 requires that the emissions control system considered able to meet the standard be "adequately demonstrated" and the standard itself "achievable." 42 U.S.C. § 7411(a) (Supp. I 1977). We have in the past remanded section 111 standards for the "seeming refusal of the agency to respond to what seem to be legitimate problems with the methodology of the [ ] tests," *Portland Cement I*, 486 F.2d at 392; and the limited relevance and reliability of the tests relied upon in support of the standard. *Id.* at 396, 401. In *Essex Chemical* as well as *Portland Cement I* we expressed concern that the standards set might not have been achievable in periods of abnormal operation, e. g., during the "startup, shutdown and [equipment] malfunction" periods that occur in plant operation; and we remanded for further consideration of this issue. *Portland Cement I* at 398-99; *Essex Chemical*, 486 F.2d at 433. We have also questioned the significance of tests conducted for purposes of standard development under conditions different from those specified by the regulations for enforcement. *Essex Chemical* at 436. In analogous review proceedings under other sections of the Clean Air Act and under the Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.* (1976), this court and other courts have evinced a similarly rigorous approach.<sup>44</sup>

However, we think it serves little purpose to elaborate on the standard of review as applied before we explain how, under the general approach required by statute and our earlier decisions, we have evaluated petitioner's and respondents' contentions.

The issue presented here is primarily one of the adequacy of EPA's test data on which the industry standards are based. NLA disagrees with EPA's conclusion that the standards are achievable under the "best technological system of continuous emission reduction which . . . the Administrator determines has been adequately demonstrated." Specifically, NLA claims that the test data underlying the development of the standards do not support the Administrator's conclusion that the promulgated emission levels are in fact "achievable" on a continuous basis. Promulgation of standards based upon inadequate proof of achievability would defy the Administrative Procedure Act's mandate against action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706 (1976).<sup>45</sup>

[627 F.2d 431]

#### IV. ASSESSMENT OF THE OBJECTIONS RAISED BY THE INDUSTRY

Our review has led us to conclude that the record does not support the "achievability" of the promulgated standards for the industry as a whole.<sup>46</sup> This conclusion is a cumulative one, resulting from our assessment of the many points raised by the industry at the administrative level and in this court;<sup>47</sup> no one point made is so cogent that remand would necessarily have followed on that basis alone.<sup>48</sup> In the

[627 F.2d 432]

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analysis that follows, common threads will be discerned in our discussions of individual points. Chief among these common threads is a concern that the Agency consider the representativeness for the industry as a whole of the tested plants on which it relies, at least where its central argument is that the standard is achievable because it *has* been achieved (at the tested plants). The Agency's failure to consider the representativeness—along various relevant parameters—of the data relied upon is the primary reason for our remand. The locus of administrative burdens of going forward or of persuasion may shift in the course of a rulemaking proceeding,<sup>49</sup> but we think an initial burden of promulgating and explaining a non-arbitrary, non-capricious rule rests with the Agency and we think that by failing to explain how the standard proposed is achievable under the range of relevant conditions which may affect the emissions to be regulated, the Agency has not satisfied this initial burden.

Bearing this initial burden will involve first, identifying and verifying as relevant or irrelevant specific variable conditions that may contribute substantially to the amount of emissions, or otherwise affect the efficiency of the emissions control systems considered. And second, where test results are relied upon, it should involve the selection or use of test results in a manner which provides some assurance of the achievability of the standard for the industry as a whole, given the range of variable factors found relevant to the standards' achievability.

EPA itself acknowledged in this case that "standards of performance . . . must . . . meet these conditions for *all variations of operating conditions being considered* anywhere in the country." SSEIS 2-6 (emphasis supplied). As set forth in the standards support statement, EPA's guidelines require data to be assessed with consideration of the "representativeness" of the source tested, including the "feedstock, operation, size and age" of the source. SSEIS at 2-7. Furthermore, the record strongly suggests other factors that may affect the particulate emissions from lime plants. Yet at no point does EPA evaluate the relevance or irrelevance of such factors to regulable emissions; nor does the Agency explain how such factors might have been taken into account in choosing test plant sites or in analyzing the data from the sites it chose.

The critical question presented here is whether the regulated industry, through its trade association, should have borne the entire burden of demonstrating the unreliability for the industry as a whole of the conclusions drawn by the EPA. In this connection we are candidly troubled by the industry's failure to respond, at a crucial juncture in the standards development process, to the Agency's invitation to submit data supporting a fundamental industry objection to the achievability of the standard.<sup>50</sup> We would have expected the industry to have been eager to supply supporting data for its position, assuming the "cost" of obtaining such data were less than the "cost" of compliance with a standard that was argued to be unachievable on any reliably repetitive basis for the industry as a whole.<sup>51</sup> We cannot help but wonder if the industry's failure to supply such data means that the data available or obtained would not be favorable to the industry's position. Nevertheless we remand because we think, on balance, EPA must affirmatively show that its standard reflects consideration of the range of relevant variables that may affect emissions in different plants.

The showing we require does not mean that EPA must perform repeated

[627 F.2d 434]

tests on every plant operating within its regulatory jurisdiction.<sup>52</sup> It does, however, mean that due consideration must be given to the possible impact on emissions of recognized variations in operations and some rationale offered for the achievability of the promulgated standard given the tests conducted and the relevant variables identified. To facilitate public comment,<sup>53</sup> we think this rationale should have appeared in the Agency's initial standards support statement.

We must remand to the Agency for a more adequate explanation or, if necessary, for supplementary data to justify the standard in terms of the "representativeness" of the sources tested. The specific doubts generated by our review of the record in light of the lime industry's attack on the standard are more fully explained below.<sup>54</sup>

[627 F.2d 435]

## A. THE PARTICULATE EMISSION STANDARDS

### 1. ROTARY KILNS

EPA tested emissions at six plants<sup>55</sup> before it proposed its mass emission standard for rotary lime kilns. These six plants were selected for testing on the basis of visits to thirty-nine plants, during which the visibility of emissions was observed and information obtained on the emissions control systems employed.<sup>56</sup> The thirty-nine plants were themselves selected because they had been identified as effectively controlled after a review of the literature and contact with industry representatives. SSEIS A-1. The results of the tests of one plant (Plant A) which could not meet the proposed standard were excluded from consideration because the plant was thought not to represent best technology.<sup>57</sup> From what we can gather from the record, three plants were able to meet the standard consistently.<sup>58</sup>

Our doubts about the representativeness of the data relied upon are grouped under three subheadings below: *Variations in Quantity of Particulate Generated in the Kiln*; *Variations in Controllability of Particulate Generated*; and *Explanation of Discarded Data from Plants A and F*. Under the subheading *Variations in Quantity of Particulate Generated in the Kiln*, we discuss the possible impact on the standard's achievability of composite dust levels generated by the tested plants and two factors (feedstock variations and gas velocity) that may contribute to composite dust levels. Under the subheading *Variations in Controllability of Particulate Generated*, we discuss two factors—apart from sheer quantity of dust—that may affect emissions control: coal usage and particulate size. Finally under the subheading *Explanation of Discarded Data from Plants A and F*, we discuss the EPA's handling of the results of two tested plants that were unable to meet the standards proposed.

### A. VARIATIONS IN QUANTITY OF PARTICULATE GENERATED IN THE KILN

That the quantity of dust produced in the kilns would affect the controllability of emissions and the achievability of the standards

[627 F.2d 436]

does not seem an unreasonable expectation. The Agency, however, appears to have taken conflicting positions on the reasonableness of this expectation and perhaps as a consequence has devoted inadequate attention to several variables which EPA's own documents and the industry suggest may affect the volume of dust produced in different kilns.

#### (1) FEEDSTOCK VARIATIONS

For example, the record suggests that the size and chemical composition of the limestone feedstock used will affect the amount of dust produced.

The MRI Report, prepared for EPA as a prelude to proposal of the particulate emission standards and an important background document considered in developing the proposed standards,<sup>59</sup> stated that "[d]usting in the kiln with the resulting generation of particulate emissions is reportedly a function of the *limestone raw material*, the rate of rotation of the kiln, and the velocity of the gases in the kiln." R. 8, 2 (emphasis supplied). This suggests to us that some analysis should have been performed or tests conducted which took into account significant variations in limestone feed, or other variables relevant to dust generation.

The same theme was struck by NLA's comments on the proposed standard: "No consideration has been given by EPA to variations produced in stone size or preparation, or to the physical characteristics of the stone feed and lime produced, with the resultant variations in the quantity of flue dust to be handled." R. 103, 10.

The EPA did note in its SSEIS that "[r]otary kilns can handle a range of stone feed sizes between 1/4 inch and 2½ inches," SSEIS 3-6, and that larger feed size generally results in lower dusting in the kiln. See SSEIS 3-14.<sup>60</sup> The Agency also acknowledged that the grade and composition of limestone varies widely across the country. SSEIS 3-1.<sup>61</sup> However, no data on stone size are included by the EPA in the summary data on plants tested (SSEIS App. C) and little information concerning the chemical composition of the feed used at the tested plants is provided. The feedstock at two of the plants tested is characterized as "high calcium lime" (Plants E and F, SSEIS C-6-C-7, and at two other plants as "dolomitic limestone"<sup>62</sup> (Plant C, SSEIS C-3) or "dolomitic stone" (Plant D, SSEIS C-4). The feedstock at one plant (Plant B) is not described at all. We are, more importantly, left in the dark about which kinds of limestone can be expected to produce the greatest volume of emission dust and what, if any, processing adjustments can be expected of producers using particular kinds of feed in order to achieve the standard proposed.<sup>63</sup> For all we know,

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the six plants tested could be using kinds and sizes of feed which are representative of only a small segment of the industry spectrum.<sup>64</sup> If that were true the plants may not be "representative" and the regulation might not be "achievable" by the industry as a whole.

#### (2) GAS VELOCITY AND OPERATION LEVELS

According to the MRI Report, quoted above, dust generation is in part a function of *gas velocity* in the kiln. Gas velocity appears in turn to depend on several factors, including the percentage of capacity at which the kiln is operating. The MRI Report stated that kiln gas velocity has "the most [apparent] effect [on dust generation] when the kiln is operated close to 100 percent of design capacity," and noted that in one plant studied an increase in production—from 100% to 135% of design capacity—resulted in double the rate of emissions where a reduction from 100% to 75% resulted in only an eight percent reduction. R. 8, 2-3.<sup>65</sup> This seems to mean that at levels close to or exceeding capacity, gas velocity and consequently dust generation increases at a faster rate than at lower levels of production. Thus the level of capacity at which the plant was operating at the time of sampling and the gas velocity would appear relevant to the representativeness of the test data.

Both in this court and at the administrative level the industry has addressed the possible atypicality of the production level of some of the test plants, which it alleges were not tested at full capacity<sup>66</sup> and in doing so, it has echoed a concern expressed by this court in an earlier case.<sup>67</sup>

Data on the production level and air flow rate (velocity) at the tested plants were included in the support document filed in this case.<sup>68</sup> These data indicate that the

two baghouse-controlled kilns relied upon (Plants B and E) were operating at 111% and 91% of rated capacity, respectively. Plant A, also baghouse-controlled, but whose test results were rejected as unsatisfactory, operated at 92% capacity during the tests. One of the two ESP-controlled kilns (Plant C) was operating at 97% of design capacity and the other (Plant D) was tested at capacity, slightly over capacity, and 86% capacity, but achieved the standard consistently only when operated at less than capacity. The scrubber-controlled kiln, whose test results were discounted in the formulation of the standards, was operated at 95% of design capacity during the tests. Stack effluent flow rate (gas velocity) for the tested plants ranged from a high of

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180,000 ACFM for Plant C to a low of 48,100 ACFM for Plant E.<sup>69</sup>

Having stated that much, however, the Agency did not explain how the range of test results fully takes account of any significant differences in operating conditions in the industry. The support document is totally devoid of analysis of the relevance or irrelevance of operating level or gas velocity to the achievability of the standard, notwithstanding assertions in the EPA's own contracted-for report<sup>70</sup> that gas velocity bears upon dust generation rates.

### (3) DUST LEVELS AT THE TESTED PLANTS

The SSEIS asserts, without explaining how the conclusion was reached, that Kilns A, B and E each generated dust at a rate of twenty-two to twenty-five percent (pounds of dust collected per pound of lime produced),<sup>71</sup> higher rates than the average rate of dust generation at the eleven plants for which data were submitted by the NLA. The NLA data, however, indicate a much greater range in dust generation levels than that suggested by the EPA's test plant figures. R. 103, 13, App. 72 (figures ranging from low of six percent to high of thirty-five percent of lime produced).<sup>72</sup>

As laypersons it seems entirely logical to us to suppose that dust generation levels would directly affect emissions controllability, viz., the higher the dust generation, the more difficult the achievability of the standard by the technological control device. But the exact relationship between volume of dust generated and the efficiency of the emissions control systems is never clearly stated or explained by the Agency. Instead, the Agency sends us several mixed signals.

On the one hand, the Agency suggests both directly and indirectly that more dust means a more difficult control problem. The direct suggestion is made in the Agency's rationale for the standard, which states that the two baghouse-controlled test kilns generated "higher [dust levels] than the industry reported average *and therefore represent difficult control situations*" SSEIS 8-17 (emphasis supplied). The indirect suggestion is made by the standard itself, which permits higher levels of emissions when larger quantities of feed are being burned, a circumstance under which the production of more dust would be expected.

On the other hand, the Agency asserts that the amount of dust generated is irrelevant to the efficiency of at least one control method and therefore to the achievability of the standard. In correspondence with the NLA antedating the standard's proposal, EPA stated<sup>73</sup> "It is generally accepted that outlet dust concentrations from baghouses vary only slightly with changing inlet dust concentrations." R. 71, 2, App. 57.<sup>74</sup> This statement finds some support in the MRI Report which notes at one point:

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The general opinion among the manufacturers of emissions control equipment was that all four types of control systems would be equally tolerant of process upsets leading to short-term heavy dust loadings. In fact, as the dust loadings increase, *within a certain limit*, the emissions removal efficiency of some of the systems will reportedly increase.

R. 8, 10 (emphasis supplied). However, the MRI Report does not indicate whether long term heavy dust loading or extremely heavy short term dust loading would impair the efficiency of the control system; nor does the report indicate what manufacturers consider to be a heavy or short term dust loading; nor does it indicate on what basis the manufacturers' opinion is predicated.<sup>75</sup>

Our examination of the record thus yields a conflict: while in one breath EPA appears to acknowledge the relevance of dust generation levels to the proposed standard, in another breath the relevance is denied. In our view, the conflict is not adequately explained, nor is the industrywide achievability of the standard adequately justified, in light of the acknowledged possibility that heavy dusting creates a more difficult control problem. From what appears in the record, both variations in dust volume produced and its contributing factors received inadequate attention from the Agency in the development and explanation of this standard.<sup>76</sup>

### B. VARIATIONS IN CONTROLLABILITY OF PARTICULATE GENERATED

The record points to other variables which were also given short shrift in the stated rationale: the use of coal to fuel the kiln (as it relates to controllability of emissions); and variations in size of emitted particles. The record strongly supports the relevance of coal usage to the efficiency of at least the ESP control method and it also suggests a relationship between particle size and the efficiency of both the ESP and the baghouse control method. Nothing indicates how—if at all—variations in these factors were considered in proposing an "achievable" standard.

#### (1) COAL USAGE

It is clear that the trend in the industry is not only toward coal, but toward high sulfur coal, as other energy sources become scarcer. EPA estimates that by 1986, fifty percent of the lime plant new capacity will have high sulfur coal as the only fuel available. SSEIS 3-5. One-half of all coal used will be between one and four percent sulfur content; the average, as high as three percent. SSEIS 6-6. Moreover, conversion to coal is expected to be a major "modification" that will bring old plants into the regulatory orbit under section 111. SSEIS 5-2-5-3, 8-23. Finally, Congress was especially concerned in passing the 1977 Clean Air Act Amendments that the increased use

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of coal enter into the Agency's regulatory approach.<sup>77</sup>

However, the impact of high sulfur coal usage on the controllability of particulate emissions under any of the three "best" emissions control systems was not clearly or closely examined by EPA in the development of this standard.

With respect to the ESP system, for example, EPA acknowledged that "precipitability [or efficiency of the ESP method] is a function of the chemical composition of the dust particles and will vary with the different kinds of material that make up the kiln exhaust dust (limestone, quicklime, flyash, calcium sulfate, etc.)." SSEIS 4-6. However, neither of the two ESP plants burned coal, the burning of which will affect the chemical composition of the dust and hence the "precipitability" of emissions.<sup>78</sup>

The support document acknowledged:

The tests that were performed on the ESP-controlled kilns are not indicative of normal operation since the current trend in the lime manufacturing industry is toward the use of

coal as fuel and the kilns that were tested were fired by oil and natural gas. It is expected that this use of coal would produce a more difficult control problem. However, with proper design of the ESP, it is EPA's judgment that the system could easily meet the level of the proposed standard.

SSEIS 8-12. EPA does not, however, explain the basis for its optimistic judgment that an ESP could meet the standard on a coal burning kiln.<sup>79</sup> Although other factors may affect the chemical composition and hence the precipitability of emissions,<sup>80</sup> EPA's failure adequately to consider the impact of coal usage is a particularly obvious omission.

In still other ways the critical influence of coal, particularly high sulfur coal, was not adequately taken into account. For example, EPA acknowledges that conversion to coal will "cause an increase in particulate emissions in the kiln." SSEIS 5-3.<sup>81</sup> Indeed, three (baghouse-controlled) coal burning kilns were characterized by EPA as "most representative" because they burned coal. SSEIS 8-17. However, of these three "most representative" plants, only two could meet the standard. The insensitivity of the baghouse control method "to small changes in the inlet [dust] loading," SSEIS 5-3,<sup>82</sup> was thought by EPA sufficient to compensate for increased emissions caused by conversion to coal when this method is used, *id.*,<sup>83</sup> but little attention was devoted to this topic.

In addition, the record reflects little consideration of the impact of variations in the sulfur content of coal used. For example, the sulfur content at the coal burning plants tested was considerably smaller than the average projected sulfur content (3 percent) for all new lime plants in the near

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future. Plant B used 0.6 percent sulfur coal and Plant E used 0.92 percent sulfur coal. Plant F (which failed) used 1.86 percent sulfur coal and Plant A (which also failed) used 1.3 percent.

It is certainly plausible that the use of high sulfur coal will result in a greater increase in uncontrolled or difficult-to-control particulate emissions. (The standards support statement suggests that sulfur content may affect particulate weight. SSEIS D-7.) Yet EPA did not state whether the one coal-converted plant which showed no increase in controlled emissions used high or low sulfur coal.

These little bits of information about the impact of coal usage on the controllability of particulate emissions are left for us to piece together. This obvious and important trend at least deserves to be discussed in a coherent fashion.

Given the high emphasis in the 1977 Clean Air Act Amendments on coal—especially high sulfur coal—as the fuel of choice,<sup>84</sup> we think the effect on emissions of this fuel's use should have been specifically examined and a rationale offered to demonstrate the standard's "achievability"—under *any* of the best methods of emissions control—when high sulfur coal is burned.

## (2) PARTICLE SIZE

Although there is (a) considerable evidence in the record that the efficiency of available control technology varies with emitted particle size and (b) that lime dust particle size varies regionally (probably due to feedstock variation), the EPA (c) undertook no analysis of the impact of particle size distribution on the achievability of its standard. Each of these points is discussed under separate subheadings below.

### (A) THE RELATIONSHIP OF PARTICLE SIZE TO EFFICIENCY OF CONTROL METHODS

That particle size affects the efficiency of at least two of the three "best" technological control systems seems clear.

With respect to the baghouse method of emissions control, the support statement itself states that "[f]abric filter effectiveness is primarily a function of kiln exhaust particle size distribution, fabric type, fabric age and maintenance history." SSEIS 4-2 (emphasis supplied).<sup>85</sup> Indeed, in response to comments submitted in another case (the asphalt concrete NSPS), EPA recognized that "[p]articulate matter which is spherical in shape, has an average fineness below 5 microns, and is slippery and smooth will decrease the performance of a baghouse . . . ." EPA, Background Information for New Source Performance Standards, EPA 450/2-74-003, 122 (1974).<sup>86</sup>

With respect to the ESP method, EPA acknowledges that ESPs experience a "relatively low collecting efficiency on submicron particles." SSEIS 4-7. Furthermore, EPA has made a similar acknowledgment with respect to both the ESP and the baghouse method on remand from this court's decision in *Portland Cement I*. In a document prepared in response to the remand, EPA stated: "These collectors, fabric filters or electrostatic precipitators, are more effective in removing coarse particles than fine particles." EPA, Response to Remand Ordered by U.S. Court of Appeals for the District of Columbia in *Portland Cement Association v. Ruckelshaus* (486 F.2d 375, [D.C.Cir.] June 29, 1973), EPA 450/2-74-023, 113 (1945) [hereinafter cited as EPA, Response to Remand].

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Thus, it seems likely that both dry-collection methods, the ESP and the baghouse, operate more efficiently when the proportion of large to small particles in the emissions is relatively high. It is therefore possible that a kiln which produces a high proportion of fine particulate may not be able to meet the standard, at least using energy-conserving dry collection methods.<sup>87</sup>

### (B) REGIONAL VARIATIONS IN PARTICLE SIZE

Two early studies on which EPA relies in support of its standard strongly suggest regional or temporal variations in lime particle size. First, the Study of Technical and Cost Information noted: "The size analysis of the [lime] dust being discharged from the kiln may contain as much as 30 percent below 5 microns and 10 percent below 2 microns." R. 1, 35. Second, the Vulcan Report included a table showing that in a typical rotary kiln in Ohio, 12.7% of particulate did not exceed 4.4 microns and 23.8% was smaller than 7.7 microns. *Id.* 20. The report also cautioned that there was "a significant percentage of 'large' particles (larger than thirty-two microns) in this distribution," *id.* 19, and that "the various percentages associated with [ ] particle size distribution . . . may change from state to state depending on the characteristics of the respective limestone deposit." Finally, at an April 30, 1976 meeting between industry and Agency representatives, an industry spokesman made the challenge directly. According to EPA's file memorandum summarizing the meeting, the industry representative

pointed out that there are significant differences between the crystal structures of different limestones. These differences are dependent upon the limestone source and the type of limestone. He stated further that, because of the resulting variations in crystal sizes, particulate emissions could vary greatly from one facility to another (for both the kiln and hydrator). Much discussion of this point followed. Most of the industry representatives echoed this argument. They felt that in plants where the lime product had a large crystal structure, meeting the standard would be much easier than in those plants where the lime product had a small crystal structure.

R. 118, 1. The EPA's response at the meeting was noteworthy:

Mr. Goodwin [of EPA] and ISB members stated that they were not aware of these differences and that if the industry would provide EPA with data to back their claim, [the] standard would be reconsidered.

*Id.* At the same meeting another industry representative suggested:

[r]elative to the particle size problem, . . . that some type of subcategorization of facilities might be needed. Mr. Goodwin stated that EPA would consider subcategorization if [it] receive[d] adequate evidence to show this need. He also indicated EPA's willingness to do further source testing if the lime industry representatives would suggest places they think [EPA] should test and [sic] [EPA] feel[s] additional testing would be productive.

*Id.*

This promising but aborted exchange dramatically illustrates our dilemma in this case. When particle size was identified as a potentially important variable, both the Agency and the industry failed to pick up the ball.

### (C) EPA'S LACK OF ANALYSIS

As far as we can tell the Agency gathered no data on particle size distribution at the tested plants or in the industry generally, either before or after the industry meeting which focused on this factor. Whether the EPA took particle size into account in developing and promulgating its proposed standard cannot be determined from this record.

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Understandably, the Agency's main defense in court centers on the industry's total failure to respond<sup>88</sup> positively to EPA's suggestion that the industry either suggest additional test sites or submit data on the basis of which EPA might reconsider or subcategorize the standard to conform to local variations.<sup>89</sup> EPA's point is a sympathetic one, but not, we think, dispositive. EPA has a statutory duty to promulgate achievable standards. This requires that they approach that task in a systematic manner that identifies relevant variables and ensures that they are taken account of in analyzing test data. EPA's own support document recognizes particle size as a variable but enigmatically does not discuss it at any length or explain its importance in emissions control. That the industry did not assist the Agency in any meaningful way by data or even by suggestions for additional testing is certainly discouraging. But we do not think that inaction—lamentable though it may be—lifted the burden from the Agency of pursuing what appears to be a relevant variable or at the least discussing in its document why it was not considered important.

In this respect, we believe that the industry's comments, concerning particle size distribution, when viewed in light of the material contained in EPA's own support statement and in light of the background documents on which it relied, met a "threshold requirement of materiality,"<sup>90</sup> mandating an Agency response which was not forthcoming here.

### C. EXPLANATION OF DISCARDED DATA FROM PLANTS A AND F

Finally (with respect to the rotary kiln particulate emission standard), a few words should be devoted to the mysterious Plant A and the plant controlled by a low-pressure venturi scrubber (Plant F.). Test results obtained at Plant A were excluded from consideration and those obtained at Plant F were discounted (if not excluded entirely from consideration) in the rationale for the proposed standard. This was because after testing it was concluded these plants did not represent best technology. SSEIS 8-17, 8-18. At both plants the measured particulate emissions had significantly exceeded the proposed standard.<sup>91</sup> The only reason—apart from the poor test result—given for the conclusion that Plant A did not represent best technology was as follows:

The Plant A baghouse is not typical of those in use in the lime industry. Large quantities of dilution air infiltrate through the corrugated asbestos siding and doors into the clean air side of the baghouse. It is unknown how this affects the performance of the baghouse, but this baghouse did not perform as well as the two other baghouses (Plants B and

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### E) THAT WERE SOURCE TESTED IN CONJUNCTION WITH THIS STUDY.

SSEIS C-69.

It would appear that EPA's observation of "large quantities of dilution air" at this plant is related to its measurement of high oxygen levels in the effluent.<sup>92</sup> Yet when the oxygen determination at the plant was questioned as "thermodynamically impossible" (R. 139, 7, App. 189), EPA conceded error<sup>93</sup> but offered no other reason to support its conclusion that Plant A did not represent best technology. We think it incumbent upon the Agency, at least where it chooses to propose a standard on a data base as apparently limited as this one, to offer some supportable reason for its conclusion that a tested plant, chosen as likely to be well-controlled, does not represent best technology.<sup>94</sup> The mere fact that its test results were unsatisfactory is not enough.

If, for unexplained reasons, one-third of the test plants initially chosen by EPA for their well-controlled systems fail to meet the standard, the conclusion is just as plausible that the standard is not achievable as that the plants chosen did not have well-controlled systems. It is up to EPA to dispel such doubts, and they have not done so here.

Of course, the fact that Plant A did not meet the proposed standard does not itself prove the standard is unachievable. However, ignoring the Plant A results merely because they were not satisfactory would suggest that the process by which the standard was promulgated was an arbitrary one. This is especially true where the results excluded are those obtained from one of only three plants tested which utilized the existing technology (baghouse) "that approximately 80 percent of the new and modified facilities subject to the proposed standards would use . . . ." SSEIS 8-13.

EPA's handling of the Plant F (scrubber) results does not seem as troubling, primarily because neither the trend in the industry nor this standard favor the use of scrubbers for rotary kilns. It was, however, the only scrubber-controlled plant tested and it did not meet the standard. EPA attributed the poor results to the low pressure employed by the Plant F scrubber and hypothesized that a higher pressure scrubber could meet the standard proposed. In support of this hypothesis EPA relied upon a non-EPA-conducted test reported in the literature, although the conditions under which that test was conducted were not mentioned. SSEIS 8-12. Were the venturi scrubber projected to be in use for any sizable number of new or modified lime plants, we would be considerably less comfortable with the Agency's conclusion that "EPA['s] . . . source test . . . show that all [three control devices] are capable of meeting the particulate emission level of 0.15 kilogram per megagram . . . ." SSEIS 8-12.

## 2. HYDRATORS

Since EPA has already agreed to a remand of the standard for "pressure" hydrators, we consider the standard only as it relates to "atmospheric" hydrators.<sup>95</sup>

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EPA conducted particulate emission tests on two hydrators,<sup>96</sup> both controlled by wet scrubbers. Each was tested three times.<sup>97</sup> Average emissions at both plants fell below the standard.

However, in reviewing the record in light of the industry's attack, we have encountered the same problem with the hydrator standard as with the rotary kiln standard. There is record evidence substantial enough to raise a real question in our minds whether adequate account was taken of significant variables relevant to the standard's achievability.

Material submitted by the NLA at its June 1977 meeting with EPA suggests that lime hydrators (like rotary kilns) produce particles of different size and surface area.<sup>98</sup>

Since the efficiency of the wet scrubber method of emissions control apparently depends on the probability that dust particles will collide with and be captured by small water droplets which are sprayed into an area through which the effluent must pass,<sup>99</sup> the size and surface area of the particulates to be captured would certainly seem important. Yet the relevance of particulate size and surface area is nowhere addressed by EPA, insofar as this record reveals.

All the record reflects is that both hydrators utilized calcitic (rather than dolomitic) lime, again with no explanation of the relevance of that item of information to the achievability of the proposed standard on an industry-wide basis. Since the comments submitted by NLA in connection with the rotary kiln standard suggest that particle size in calcination is affected by the chemical composition of the material used, a similar effect might therefore be anticipated in the hydration process; but the EPA does not address this possibility either through assumptions, tests performed, data collected and reported, or analysis of results. We are asked to conclude that the projection of an achievable standard for the industry as a whole based on tests conducted at two hydrator plants using calcitic

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stone represents a reasoned decision, without knowing why.<sup>100</sup>

Because we remand, the Agency will have the opportunity to consider the hydrator standard more fully in light of the additional material and more elaborate arguments relating to the achievability of the standard for hydrators that were first submitted by the industry when the matter was brought to this court.

## B. THE OPACITY STANDARD AND CONTINUOUS MONITORING REQUIREMENT

### 1. THE OPACITY STANDARD

"Opacity" is defined by regulation to mean "the degree to which emissions reduce the transmission of light and obscure the view of an object in the background." 40 C.F.R. § 60.2(j) (1979). EPA explains that "[t]he opacity level of visible emissions is an indication of the mass concentration of a particular pollutant" and that "[v]arious studies have shown that opacity varies directly with mass concentrations of particulate matter." SSEIS 8-19. EPA considers opacity standards to be "a necessary supplement to particulate mass emission standards" basically because "[o]pacity test methods are quicker, easier to apply, and less costly than concentration/mass tests for particulate matter." SSEIS 8-19.

The performance standards prescribed by EPA for rotary lime kilns consist of both a mass emission standard (grams of particulate emission per gram of feed) and an opacity standard (ten percent). 43 Fed.Reg. 9453 (1978). Only those kilns using dry methods of emissions control are subject to the ten percent opacity standard. As previously noted,<sup>101</sup> no opacity standard was promulgated for lime hydrators (which almost never employ dry control methods) and rotary kilns using wet scrubbers have been exempted<sup>102</sup> from compliance with the opacity standard.

We have considered the various arguments made by the NLA and conclude that EPA's apparent failure to consider in this case some variables which were (1) given more careful consideration in the promulgation of earlier opacity standards and (2) given inadequate consideration in the companion mass emission standard requires us to remand the opacity standard to the Administrator for additional explanation or for revision.<sup>103</sup>

## A. VARIABLES CONSIDERED IN THE PROMULGATION OF EARLIER OPACITY STANDARDS

On remand from *Portland Cement I*, 486 F.2d 375, the Administrator undertook extensive reconsideration of both the opacity standard proposed for portland cement plants and the methodology (EPA's "Method 9," 40 C.F.R. Part 60, App. A (1979)) of

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opacity measurement.<sup>104</sup> In the year and a half that followed, the methodology was revised and the standard set for portland cement plants was raised from ten to twenty percent.<sup>105</sup> EPA has explained its relaxation of the portland cement standard as an effort to accommodate the complete range of available data obtained in that case, having adjusted the data for stack diameter. SSEIS II, 13. Stack diameter was thus a variable for which EPA made adjustments in the portland cement case but it was not the only variable considered in formulating that standard. It is clear that the possible impact of other variables were also taken into account on remand, including: particle size and shape, EPA Response to Remand 112;<sup>106</sup> and stack gas exit velocities, *id.* 116.

The impact of variations in particle size and shape were also considered by EPA in evaluating an opacity standard for asphalt concrete plants.<sup>107</sup> It is this difference in Agency methodology underlying the various new source opacity standards and not the difference in the standards themselves that gives us most pause.<sup>108</sup> No attention

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to particle size and shape appears to have been given by EPA in the preparation of opacity standards for lime plants.<sup>109</sup>

## B. VARIABLES INADEQUATELY CONSIDERED IN MASS EMISSION STANDARD

Opacity standards are intended to operate in tandem with mass emission standards, notwithstanding their independent enforceability. Ideally, a violation of an opacity standard should indicate a violation of a mass emission standard. See SSEIS 8-19. For this reason the Agency relies on data from the same test plants to support



both the opacity and the mass emission standard; but for this reason when the representativeness of data relied upon for one standard is inadequately shown, the representativeness of data relied upon for the other standard is drawn in question.

As discussed above, the Agency failed to consider the representativeness of the particle size produced at its tested plants. This failure is particularly striking in connection with the opacity standard because variations in particle size have been given careful consideration in the development of earlier opacity standards.

We have already noted that the emissions control systems favored by the standards and by prevailing economic and technological trends may operate more efficiently when the predominant size of particulate emissions is large. As it happens, large particulate is also likely to appear less opaque. Thus, it is possible that a plant would meet both standards only because the particles emitted are uniformly large and we cannot ascertain how the plants tested here "measure up."<sup>110</sup>

### C. EPA'S ARGUMENTS

Both in this court and at the administrative level EPA emphasizes the overwhelming extent to which the plants tested were able to meet the ten percent opacity standard.<sup>111</sup> But without knowing the representativeness of the plants tested or of test conditions, we cannot say that the standard is neither arbitrary nor capricious. Certainly

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the fact that virtually all plants tested were able to meet the standard is an important consideration, but our doubts are sufficient, when coupled with our doubts concerning the mass emissions standard (discussed above), to remand to the Agency for amplification of the record.

EPA has committed itself to take the possibility of inaccurate opacity measurement into account in the enforcement of the standard.<sup>112</sup> It has also provided a type of "variance" mechanism under which new sources which meet the mass emission standard but which cannot meet the opacity standard may petition the Administrator to establish a separate opacity standard for that facility. 40 C.F.R. § 60.11(e) (1979), 39 Fed.Reg. 39872 (1974). The variance mechanism, however, seems clearly to have been intended to be narrowly construed.<sup>113</sup>

The Agency relies upon the flexibility built into the regulatory scheme to support the rationality of its standards.<sup>114</sup> The wisdom of such flexibility has been applauded on earlier occasions by this court,<sup>115</sup> but the statutory scheme prescribes "achievable" standards and there is a limit to the flexibility with which the Agency is or should be endowed.<sup>116</sup>

We recognize the usefulness of opacity standards as an enforcement tool.<sup>117</sup> Opacity can be monitored by the Agency with little advance warning or costly preparation.<sup>118</sup> We also realize that "[o]pacity standards are not novel . . . opacity standards have been upheld previously by this court<sup>[119]</sup> under closely analogous circumstances . . . [and that] Congress . . . has expressed concern for opacity values in measuring air pollution under the Clean Air Act. . . . *Alabama Power Co. v. Costle*, No. 78-1006, slip op. at 32, (D.C.Cir. Dec. 17, 1979) (Wilkey, J.), and we do not wish to imply that the Agency cannot justify their use. We remand to the Agency because on this record the reasonableness

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of the standard has not been demonstrated.

### 2. CONTINUOUS MONITORING

On the opacity monitoring requirement, the petitioner's argument is simple: there is no adequately demonstrated technology for monitoring opacity.<sup>120</sup> One company operating affected facilities (Dow Chemical) commented, "We have tried several continuous monitoring systems in the past and have been unable to find an instrument that will suitably do the job and can be maintained in operation." R. 148, App. 327-28. The company cited high opacity readings attributable to instrument malfunctioning "as frequently as twice a day" and also remarked that "[t]he opacity readings [of the monitor] do not relate to the actual stack conditions as measured by visual observers."

EPA answers that the continuous monitoring data would not be used to determine compliance with the opacity standard but "to keep a check on the operation and maintenance of the control equipment," and to trigger performance checks by trained observers. Brief for Respondents at 12-13, *citing* SSEIS 8-24 and standard as proposed (42 Fed.Reg. 22506, 22509 (1977)). The Agency argues that if the equipment gives any "indication" of changed opacity it is enough to justify a continuous monitoring requirement. Brief for Respondents at 29. It dismisses the industry's contention that reliable monitoring equipment is not available to perform this limited a function and shifts the burden to the industry to show "by supporting data," SSEIS II, 13, that it is not.

EPA states that it now routinely requires continuous monitoring of opacity in new source performance standards.<sup>121</sup> Brief for Respondents at 14-15. Opacity monitoring was first required and performance specifications for monitoring systems prescribed in connection with the NSPS for fossil-fuel fired steam generators and petroleum refineries.<sup>122</sup> As of the date the lime standard was proposed, five other promulgated NSPS included a requirement for the continuous monitoring of opacity.<sup>123</sup> Since the lime standard's proposal, at least one other standard has been promulgated that contains such a requirement.<sup>124</sup> In answer to NLA's observation that no continuous opacity monitoring is required of portland cement plants, R. 139, 14 App. 196, EPA informs the court that the Agency is now reviewing the portland cement standards pursuant to § 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B) (Supp. I 1977) to see if the same requirement should be imposed there. Brief for Respondents at 15.<sup>125</sup>

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EPA maintains that it has had considerable experience with the use of continuous monitoring devices and that in its experience a monitor will show if an emissions control device is being properly operated and maintained and the opacity standards met. SSEIS II, 14; SSEIS 8-24. Thus monitoring will act as a needed warning alarm when the control system is out of kilter. SSEIS 8-24.

The industry itself admits there is some value to a continuous monitoring requirement. Dow Chemical took a critical stance (adopted by NLA, Brief for Petitioner at 52) but also acknowledged that monitoring equipment "gives an indication of whether the opacity is increasing or decreasing." R. 148, 2, App. 328. Given this concession, we cannot find the continuous monitoring requirement arbitrary as an adjunct to a non-arbitrary, non-capricious opacity standard. We have today remanded the opacity standard for lime plants. If on remand an opacity standard is retained, EPA may continue to require continuous monitoring.

### V. THE STANDARD OF REVIEW AS APPLIED

Our requirement that the EPA consider the representativeness of the test data relied upon in the development and justification of its standard does not presage any new or more stringent standard of judicial review. The rigorousness of the review in which this court has engaged in previous NSPS decisions—known to some as the "hard look" standard<sup>126</sup>—has already been described.

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In enacting the Clean Air Act Amendments of 1977, Congress expressly approved the rigorous standard of review which the courts had theretofore applied to Agency decisions under the Clean Air Act.<sup>127</sup> Although the judicial review provisions of the 1977 Amendments do not apply to this rulemaking proceeding, Congress' express affirmance of the standards already developed fortifies our adherence to the learning of our earlier Clean Air Act decisions in reviewing the new source performance standards currently before us.

We think these decisions amply support our conclusion that a remand is appropriate in this case. Both decisions reviewing the NSPS and those reviewing other administrative determinations under the Clean Air Act evince a concern that variables be accounted for,<sup>128</sup> that the representativeness of test conditions by ascertained,<sup>129</sup> that the validity of tests be assured<sup>130</sup> and

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the statistical significance of results determined.<sup>131</sup> Collectively, these concerns have sometimes been expressed as a need for "reasoned decision-making"<sup>132</sup> and sometimes as a need for adequate "methodology."<sup>133</sup> However expressed, these more substantive concerns have been coupled with a requirement that assumptions be stated,<sup>134</sup> that process be revealed,<sup>135</sup> that the rejection of alternate theories<sup>136</sup> or abandonment of alternate courses of action<sup>137</sup> be explained and that the rationale for the ultimate decision be set forth<sup>138</sup> in a manner which permits the public to exercise its statutory prerogative of comment and the courts to exercise their statutory responsibility upon review. The standard we apply here is neither more rigorous nor more deferential than the standard applied in these earlier cases.

Our opinion should not suggest the necessity of "ninety-five percent certainty"<sup>139</sup> in all the "facts" which enter into the

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Agency's decision. We would require only that the Agency provide sufficient data to demonstrate a systematic approach to problems, not that it adduce vast quantities of factual data. However, where the facts pertinent to the standard's feasibility are available and easily discoverable by conventional technical means, there is somewhat less reason for so limited a data base. Nothing in the record suggests the relevant facts are not readily accessible to the Agency; the number of plants is large,<sup>140</sup> use of the control methods found by the Agency to represent the "best systems" is wide-spread,<sup>141</sup> and stack emission measurement techniques have been known and applied for many years.<sup>142</sup>

With respect to the standard's achievability we are thus not presented with the question how much deference is owed a judgment predicated on limited evidence when additional evidence cannot be adduced or adduced in the near future.<sup>143</sup> We do not depart from some of the most carefully considered and closely reasoned decisions of this court which permit an agency latitude to exercise its discretion in accordance with the remedial purposes of the controlling statute where relevant facts cannot be ascertained or are on the frontiers of scientific inquiry.<sup>144</sup>

A systematic approach may not necessarily require a conclusion grounded in actual test results. We do not intend to bridle the Agency's discretion to make wellfounded assumptions even where the assumption could be replaced by valid test results, but we think first, the assumption should be stated and second, where test data *could* have verified the assumption, a reason for not testing or relying on such data should be given.

We recognize, for example, that the finding of facts, especially through elaborate testing, is costly<sup>145</sup> and the costs of additional testing may be added by the Agency to the costs of delay in issuing the proposed rule and the sum of these costs weighed against the benefit of proposing a rule without additional data.<sup>146</sup>

[627 F.2d 455]

We leave to the Agency on remand the decision whether additional Agency-conducted testing is appropriate in this case. Data may already be available to the Administrator which would support the achievability of these standards for the industry as a whole. If so, satisfaction of the concerns we have expressed in this opinion may be a fairly simple matter.

To ensure that the Agency has engaged in reasoned decisionmaking, we remand. We have outlined our substantive misgivings; the Agency may choose the appropriate method of response.

*Remanded.*

#### FOOTNOTES

\* Sitting by designation pursuant to 28 U.S.C. § 292(a).

1. The foregoing production figures describe the lime industry as of 1975. I EPA, Standards Support and Environmental Impact Statement: Proposed Standards of Performance for Lime Manufacturing Plants, Record Document No. (R.) 125, also R. 161, 3-1, 7-1-7-4 (1977) [hereinafter cited as SSEIS].

2. The basic oxygen furnace, in which lime is used as a steel flux, has gained widespread acceptance in the steel industry, Midwest Research Institute, Environmental Impact Statement for Lime Plants, R. 8, 36 (May 1976) [hereinafter cited as MRI Report]. In addition, "[l]ime is the world's leading reagent for use in the treatment of both water and air pollution." SSEIS 3-1. The MRI Report notes: "The potential stack-gas control market in utilities is larger than all other current lime markets in the United States. . . ." *Id.* at 37. Sulfur dioxide is a primary pollutant produced by the burning of oil and coal and, uncontrolled, is emitted in large quantities through the smokestacks of large consumers of oil and gas, e. g., public utilities. It is an acidic substance whose acidity can be neutralized by interaction with lime, an alkaline substance. See [1974] EPA Ann.Rep., S.Doc. No. 122, 93rd Cong., 2d Sess. V-8-V-9 (describing flue gas desulfurization processes using alkaline substances such as lime). This interaction in fact occurs in the stack effluent from coal and oil-fired lime kilns. See note 27, *infra*.

3. EPA projected an annual growth rate of five percent over the next ten years. SSEIS 3-1-3-2; *id.* 8-1.

4. MRI Report 32.

5. SSEIS 3-2.

6. "Deadburned lime" is the product of overburning quicklime.

7. Sulfur is found in most limestone and in all fuels used in calcination, except natural gas. SSEIS 3-9. However,

[t]he sulfur in the limestone feed does not normally contribute to a substantial portion of the total SO<sub>2</sub> emissions from a rotary kiln . . . The major concern with respect to SO<sub>2</sub> emissions from rotary kilns is the sulfur content of the fuel.

*Id.* Other exhaust emissions resulting from the processing of lime and limestone include carbon monoxide and nitrogen oxides. SSEIS 8-4.

8. Rotary kilns are cylindrical furnaces which rotate at a slight inclination from the horizontal. Limestone is fed into the elevated end of a rotating kiln and discharged at the lower end as quicklime. Stone sizes fed into the kiln range from 1/4" to 2 1/2". Depending on the feed size and the temperature and duration of calcination, a wide range of lime qualities can be achieved in the kiln: coarse or uniform, unreactive or highly active. (Internal mixers are used in some kilns to insure uniformity of product but the use of such mixers results in higher dust loads in the exit gas.) Short rotary kilns have more limited feed size requirements ( 3/8 " to 1 1/4") than long rotary kilns. The generally larger feed size results in lower dusting in shorter kilns. SSEIS 3-14.

9. MRI Report 2. The MRI Report appears to refer only to particulate emissions. Taken as a description of average industry "dustiness" the figures were disputed by the NLA. EPA's response was to alter the model plant profile. The average dusting rate was ultimately assumed to be 17% of lime produced. SSEIS 3-10. See discussion *ante*, text at notes 71-72.

10. For purposes of determining the impact of various control options, EPA posited a "model plant" producing 500 tons per day from 1000 tons of feed stone. The model plant operates 330 days per year, uses 130 tons of coal a day and 32 kilowatt-hours of electric power per ton of lime, has an average dusting rate of 17% of lime produced, potentially produces 200 to 650 pounds per hour of SO<sub>2</sub>, depending on the sulfur content of the coal, 60 pounds per hour of nitrogen oxides and 20 pounds per hour of carbon monoxide. SSEIS 3-10.

11. Typical state standards for lime plants require control of particulate emissions from lime kilns to 0.5 kilogram per megagram of feed (1.0 pound per ton) and control of sulfur dioxide to 1.0 kilogram per megagram (2.0 pounds per ton). SSEIS 8-1.

12. SSEIS 3-5. Low sulfur coal supplies are dwindling; EPA estimates that by 1986, 50% of new plant capacity will be using high sulfur coal. SSEIS 3-5. The increased use of coal, particularly high sulfur coal, can be expected to affect emissions. Use of high sulfur coal can result in "significant" SO<sub>2</sub> emissions; EPA projects 84 pounds per hour of SO<sub>2</sub> when 3.5% sulfur coal is burned in a "model" kiln producing 500 tons of lime per day. SSEIS 3-9-3-11. This compares with approximately 22 pounds per hour of SO<sub>2</sub> when low sulfur coal (one percent or less) is burned. The chemical composition of the limestone feed, the kiln temperature, the amount of excess oxygen in the kiln, and the amount of dust and particle size will all affect SO<sub>2</sub> emissions, but the major factor will be the sulfur content of the fuel. SSEIS 3-9. The standards at issue here, however, expressly limit only particulate emissions. No standard has been set for emissions of sulfur dioxide in the lime industry.

13. The "model" hydrator processes 14 tons of lime per hour and produces 17 tons per hour of hydrate, operates 4700 hours per year and produces dust at the rate of 1200 pounds per hour. This model, like the model kiln, was developed for purposes of assessing the "impacts" of each control option considered. SSEIS 3-15.

14. The gravel bed filter was not considered by the EPA as one of the "best systems . . . adequately demonstrated." Apparently it is little used in this country. SSEIS 4-11.

15. MRI Report 8-9.

16. See SSEIS 7-27; 8-12.

17. 42 Fed.Reg. 22507 (1977).

18. SSEIS 4-2.

19. SSEIS 4-6.

20. SSEIS 4-9.

21. SSEIS 4-12.

22. A "new source" is defined by the Act to mean:

any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

42 U.S.C. § 7411(a)(2) (Supp. I 1977); 42 U.S.C. § 1857c-6(a)(2) (1976) (repealed 1977) (same).

23. "Modification" of a source is defined to mean:

any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

42 U.S.C. § 7411(a)(4) (Supp. I 1977); 42 U.S.C. § 1857c-6(a)(4) (1976) (repealed 1977) (same). See 40 C.F.R. § 60.14 (1979) (governing "modification" of stationary sources). Conversion of a kiln from natural gas or fuel oil to coal firing may constitute a "modification," triggering application of the NSPS here promulgated. See SSEIS 5-3.

24. H.R.Rep.No.1146, 91st Cong., 2d Sess. 3 (1970), U.S.Code Cong. & Admin.News 1970, p. 5356.

25. As noted, this section was amended in 1977, NSPS may now be promulgated for a given source if "in [the Administrator's] judgment, it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A) (Supp. I 1977).

26. See note 1, *supra*.

27. In its notice of proposed rulemaking, 42 Fed. Reg. 22507 (1977), EPA explained its decision not to propose standards for nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and sulfur dioxide (SO<sub>2</sub>):

NO<sub>x</sub> emissions from lime kilns are generally emitted in low concentrations of about 200 ppm. NO<sub>x</sub> emission reductions achievable through combustion modification or other control techniques have not been clearly identified for lime kilns. Standards of performance to reduce these emissions are therefore not being proposed.

CO emissions from lime plants are normally in concentrations of about 100 ppm. Emissions of this magnitude would result in an ambient air concentration of less than one percent of the primary ambient air quality standard under adverse meteorological conditions. The most effective control method for CO, incineration of the off-gasses, would create a severe fuel penalty, while producing very little environmental benefit. Consequently, standards of performance for control of CO emissions from lime kilns are not being proposed.

SO<sub>2</sub> emissions from lime kilns are due primarily to the presence of sulfur in the fuel used to fire the kiln. Potential emissions of SO<sub>2</sub> from a 907 Mg (1000 ton) per day lime kiln firing a coal of about 3 percent sulfur would amount to about 295 kg (650 pounds) per hour. Due to the reaction between the lime dust and the SO<sub>2</sub>, however, a significant reduction in SO<sub>2</sub> emissions results. When dry particulate control, such as a baghouse or an ESP, is used, SO<sub>2</sub> emissions are reduced by about 85-90 percent. This SO<sub>2</sub> reduction can be increased to about 95 percent if a venturi scrubber is used for particulate control.

28. The SSEIS identifies three other types of kilns in current use by the industry: the vertical kiln; the rotary hearth kiln; and the fluidized bed kiln. SSEIS 3-11-3-13. The focus on rotary kilns was attributed to the widespread use of such kilns in recent years and to the Agency's expectation that the suitability of these kilns to the burning of coal (*see* text at note 12, *supra*) would secure their preeminent place among the kilns used in the industry.

It is expected that as supplies of natural gas and oil become more expensive or unavailable, all new kilns would be rotary lime kilns designed to burn coal.

SSEIS 8-9 (footnote omitted).

29. The standards regulate only kiln exhaust effluent. Particulate emissions from "fugitive" sources (*e. g.*, transfer points, screens or loading operations) are not regulated. "Fugitive" sources can account for up to 10% of all particulate emissions. SSEIS 3-16.

30. "'Opacity' means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background." 40 C.F.R. § 60.2(j) (1979). *See* discussion *infra*, text preceding note 100.

31. As more fully described *supra*, text preceding note 20, the scrubber method uses a pressurized spray of water to dampen the dust which then, as slurry, can easily be separated in a centrifuge or cyclonic separator from the remaining effluent.

32. The regulations do not expressly exempt scrubber-controlled rotary kilns from the opacity standard. However, the preamble to the proposed rules states:

When a scrubber is used for control of the particulate emissions, it is very difficult to accurately read visible emissions because of the steam plume that is present. Due to enforcement difficulties, an opacity standard would not be effective in this case, and EPA is therefore excluding rotary lime kilns controlled with scrubbers from the proposed opacity standard.

42 Fed.Reg. 22508 (1977). *See also* SSEIS 8-22 ("EPA . . . is excluding rotary lime kilns controlled with scrubbers from the proposed opacity standard.")

33. Water supply pressure and pressure drop across the venturi throat were both found by EPA relevant to the efficiency of the scrubber method of emissions control. *See* text at note 20, *supra*.

34. The production of water vapor in the hydration process, as by the use of the scrubber to control calcination emissions, interferes with opacity measurement. SSEIS 3-14; 42 Fed. Reg. 22508 (1977).

35. EPA found that scrubbers are the only method of emissions control customarily used in the hydration process. The SSEIS states: "Hydration emissions have been shown to be most effectively controlled by wet scrubbers, but a baghouse has been used in at least one case." SSEIS 4-12.

36. R. 103, Appendix (App.) 60 (letter dated May 26, 1976 from Ziegler of NLA to Goodwin of EPA setting forth "[p]age-by-page technical analysis with comments of the [draft] standards Support Document"). *See also* R. 129, 3 (EPA response to Congressperson's inquiry, showing twelve communications between NLA and EPA between March 1976 and the date of proposal).

37. 42 Fed.Reg. 22506 (1977).

38. 43 Fed.Reg. 9452 (1978). The meeting, a transcript of which is contained in the record, R. 140, App. 246 *et seq.*, consisted of (a) a formal presentation by the NLA in which different speakers addressed different aspects of the proposed standards; (b) brief comments by representatives of three manufacturers of equipment used in the lime industry; and (c) an acknowledgment by the Agency of the comments and assurance that they would be considered. The meeting was apparently convened and transcribed because an unspecified "court decision in Washington" had noted "that there are some problems with meetings between industry groups or those being regulated and those regulating [ . Consequently] we have been instructed to hold this as a sort of open meeting, so that anybody who wants to can participate and listen to the comments, and also to make a complete record of the meeting." R. 140, 3, App. 248. The purpose of a public meeting puzzled the EPA administrator in charge. *Id.* at 78-79, App. 323-24. The oral presentations for the most part merely repeated written comments simultaneously submitted by the industry. Apart from the EPA's acknowledgment and assurance at the close of the meeting that the comments would be considered, no significant interchange took place between the industry and the Agency which was not reflected in the industry's written comments. As conducted, the meeting's purpose does not seem clear. We do not think that the scheduling of a public presentation of this sort was what this court had in mind in *Home Box Office, Inc. v. FCC*, 567 F.2d 9 (D.C.Cir.1977). That decision was critical of Agency practice holding *ex parte*, confidential meetings with individual industry representatives concerning a rule already proposed—a rule in which there was active, competing industry and public interest. *Id.* at 51-59. That decision did *not* require a *pro forma* public meeting, which would not otherwise have been held, merely to reiterate (or preview) publicly available written comments. *But cf.* 42 U.S.C. § 7607(d)(5) (Supp. I 1977) (requiring the Administrator to "give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions" and requiring that a transcript of any such oral presentation be kept). (For reasons discussed below, note 43, § 7607 does not apply to the standards here promulgated.)

39. II EPA, Final Standards Support and Environmental Impact Statement R. 162 (1978) [hereinafter cited as SSEIS II].

40. 43 Fed.Reg. 9452 (1978).

41. *Id.* The two minor changes were:

- (1) the exclusion from the standard of lime production units at kraft pulp mills (subject to a separate standard);
- (2) the addition of a testing technique which EPA considered "would more accurately test exhaust gases where high moisture content is a problem."

42. *See* 42 U.S.C. § 7607(b)(1) (Supp. I 1977); 42 U.S.C. § 1857h-5(b)(1) (1976) (repealed 1977).

43. Before amendment in 1977 the Act's provisions for new source performance standards were somewhat differently worded. Insofar as they are relevant here the 1977 changes were these:

- (1) The Amendments require a standard achievable under the best *technological* system of emission reduction where the pre-Amendment Act required only the best system.
- (2) The Amendments require that the technological system be one of *continuous* emission reduction where the pre-Amendment Act contained no such requirement.
- (3) The Amendments expressly require the Administrator to take into account the nonair quality health and environmental impact and energy requirements where previously the Act did not expressly so require.

Compare 42 U.S.C. § 7411(a)(1) (Supp. I 1977) with 42 U.S.C. § 1857c-6(a)(1) (1976) (repealed 1977). In addition, the 1977 Amendments require the promulgation of NSPS with respect to "fossil fuel fired sources" which reflect not only the degree of emission limitation achievable, but also the "percentage reduction" achievable under the best systems. 42 U.S.C. § 7411(a)(1) (Supp. I 1977). H.R. Conf. Rep. No. 564, 95th Cong., 1st Sess. 130 (1977), *reprinted in* 3 Senate Comm. on Environment and Public Works, 95th Cong. 2d Sess., A Legislative History of the Clean Air Act Amendments of 1977, at 510 (1978) [hereinafter cited as Legislative History], U.S. Code Cong. & Admin. News 1977, p. 1077. Except as otherwise expressly provided, the Clean Air Act Amendments of 1977 (the "Amendments") became effective August 7, 1977, the date of enactment. Pub.L. No. 95-95, § 406(d), 91 Stat. 797 (1977). The effective date of a new subsection concerning Agency rulemaking procedures, 42 U.S.C. § 7607 (Supp. I 1977), was expressly delayed by the Amendments. *Id.* § 7607(d)(11). See also text following note 126, *infra*. But no such delay was provided for the substantive amendments to the NSPS provisions. A "savings" clause did perpetuate "rules, regulations, orders, determinations . . . or other actions [already] duly issued, made or taken," Pub.L. No. 95-95, § 406(b), 91 Stat. 796 (1977); but as the standards challenged here were not "duly issued" until finally promulgated in March 1978, 43 Fed. Reg. 9452 (1978), the substantive aspects of the finally promulgated standards are governed by the 1977 provisions. See *Alabama Power Co. v. Costle*, No. 78-1006, slip op. at 34 n.79, (D.C. Cir. Dec. 14, 1979). There is no suggestion in the record that the Agency gave any consideration to the substantive impact of the 1977 Amendments on the standard it had proposed. We think that the Agency should not be required to withhold the promulgation of a proposed standard while it considers the development of newly authorized and severable aspects of that standard; and we consider the requirement of "percentage reduction" for fossil-fuel fired sources one such severable aspect. However, with respect to aspects of the 1977 Amendments which may operate at cross-purposes or in fact inconsistently with prior law, we think the Agency's standard should reflect the new law. The new requirements that the standard be achievable by an emission reduction system which is both "technological" and "continuous" are two such aspects to which the Agency ought to have given some consideration before the standard here was finally promulgated. Our concerns in this regard are set forth below, note 54 (systems of continuous emission reduction) and text at note 77 and note 77 (technological systems). The last new requirement, that the Administrator take into account the nonair quality health and environmental impact and energy requirements, was already a part of the case law developed under section 111. *Portland Cement I*, 486 F.2d at 385. The Administrator did, in fact, take these factors into account in proposing the NSPS for lime plants. SSEIS 6-1-6-30. This is the first challenge to a new source performance standard since passage of the 1977 Amendments. Consequently, we are surprised that neither party in discussing the applicable standard of law so much as mentioned the fact of this major legislative effort.

44. *E. g.*, *Bunker Hill Co. v. EPA*, 572 F.2d 1286 (9th Cir. 1977) (Clean Air Act); *Hooker Chemicals & Plastics Corp. v. Train*, 537 F.2d 620 (2d Cir. 1976) (Federal Water Pollution Control Act Amendments of 1972); *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d 615 (D.C. Cir. 1973) (Clean Air Act).

45. The "arbitrary and capricious" standard was expressly adopted as the standard of judicial review of, *inter alia*, NSPS under the 1977 Amendments to the Clean Air Act. 42 U.S.C. § 7607 (Supp. I 1977). For reasons noted *supra*, note 43, we do not apply § 7607 as amended in 1977 to the proceedings here.

46. An achievable standard need not be one already routinely achieved in the industry. *Essex Chemical*, 486 F.2d at 433-34, *citing Portland Cement I*. But, to be achievable, we think a uniform standard must be capable of being met under most adverse conditions which can reasonably be expected to recur and which are not or cannot be taken into account in determining the "costs" of compliance. The statutory standard is one of achievability, given costs. Some aspects of "achievability" cannot be divorced from consideration of "costs." Typically one associates "costs" with the capital requirements of new technology. See *e. g.*, *AFL-CIO v. Marshall*, 617 F.2d 636, 659 (D.C. Cir. 1979). However, certain "costs" (*e. g.*, frequent systemic shutdown to service emissions control systems or use of feedstock of a certain size or composition in order to meet the new emissions standards) are more intimately intertwined with "achievability" than are the capital costs of new technology. In this case the lime industry attacks the standards as "unachievable." When questioned at oral argument, counsel for petitioner disclaimed any attack upon the expense of implementation, stating that he attacked the achievability of the standard "on any reliably repetitive basis," "because of the very variables in the production of lime." This necessarily asserts that a standard which does not account for certain routine variations in conditions is "unachievable." We agree, where, as here, there is no evidence in the record that the "costs" of adjusting for such routine variations (assuming such adjustments be possible) were considered by the Agency in promulgating its standard. The EPA has expressly built some flexibility into the enforcement end of the new source performance standards, 40 C.F.R. § 60.8(c) (1979) (relating to startup, shutdown and malfunction) and is vested with a more general enforcement discretion, but the flexibility appropriate to enforcement will not render "achievable" a standard which cannot be achieved on a regular basis, either for the reasons expressly taken into account in compliance determination regulations (here startup, shutdown and malfunction), or otherwise. *Cf. Portland Cement I*, 486 F.2d at 398 n.91 and see discussion *infra* text at notes 111-15. In this connection the Congress' new concern that emissions control systems operate continuously, see 42 U.S.C. § 7411(a)(1) (Supp. I 1977) and discussion *infra*, note 54, is pertinent. Because we remand for the development of a more adequate rationale for the promulgated standards we do not now specify the kinds of variations in conditions—not accounted for in the Agency's cost analysis—which might render a uniform standard "unachievable" or so "unachievable" as to represent an arbitrary or capricious exercise of the Administrator's discretion under the Act.

47. A myriad of objections were raised by the industry to the Agency's test methodology, analysis of data and conclusions. Our scrutiny of the record has revealed that some of these objections have merit. Those objections we consider meritorious are incorporated in the analysis that follows. The remainder are not discussed.

48. In addition to the points made in connection with the achievability of the standard, NLA disputes EPA's determination that lime manufacturing plants "may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare." 42 U.S.C. § 1857c-6(b)(1)(A) (1976) (repealed 1977). (See text at note 25, *supra*.) EPA considers the significant production of particulate emissions itself to cause or contribute to air pollution (which may reasonably be anticipated to endanger public health or welfare). The Agency has made this determination for purposes of establishing national primary and secondary ambient air quality standards under § 109 of the Clean Air Act, now codified at 42 U.S.C. § 7408 (Supp. I 1977), and without regard to the harmful or beneficial effect of the material of which the particulate is composed. 36 Fed. Reg. 1502, 8137, 8138 (1971). When ambient air quality standards for particulate were first proposed, the Agency described some of the health effects of particulate matter:

Particulate matter of technological origin is pervasive in its distribution and is associated with a variety of adverse effects on public health and welfare. Particulate matter in the respiratory tract may produce injury by itself, or it may act in conjunction with gases, altering their sites or their mode of action. Particles cleared from the respiratory tract by transfer to the lymph, blood, or gastro-intestinal tract may produce effects elsewhere in the body.

Detailed information on particulate matter is presented in the document "Air Quality Criteria for Particulate Matter" (NAPCA Publication No. AP-49), which provided a basis for the development of the standards set forth below.

36 Fed. Reg. 1502 (1971). See generally II Midwest Research Institute, Particulate Pollutant System Study—Fine Particulate Emissions (Aug. 1, 1971) (on file in EPA library) (health hazards of fine particulate); U.S. Dep't of Health, Education and Welfare, National Air Pollution Control Admin., Air Quality Criteria for Particulate Matter, AP-49 (1969) (health hazards of particulate). The MRI Report, considered by EPA in developing the proposed standard, observes that lime dust can raise the pH of water bodies. MRI Report 22. However, EPA does not appear to have relied on this effect of the lime emissions in support of its standard. It focused instead on the sheer quantity of dust generated by lime plants. 42 Fed. Reg. 22507 ("A study performed for EPA in 1975 by the Research Corporation of New England ranked the lime industry twenty-fifth on a list of 112 stationary sources categories which are emitters of particulate matter"); SSEIS 8-2 ("In a study performed for EPA by Argonne National Laboratory in 1975, the lime industry ranked seventh on a list of the 56 largest particulate source categories in the U.S."). The industry's argument

rests on the asserted nontoxicity of lime dust.

In spite of a few expressed opinions, maybe more than a few, that lime dust under certain unspecified conditions might be suspect or might be harmful to the respiratory system, there is overwhelming counter evidence that lime is not toxic or unhealthy, except under extremely concentrated conditions. It is simply a nuisance dust.

R. 139, 18, App. 200. See also R. 140, 56, App. 301. NLA argues the innocuousness or even benign effect of lime emissions and concludes that "the statement that lime endangers health should be stricken from this EPA document." R. 139, 19, App. 201. The fact that lime dust reacts with and traps SO<sub>2</sub> emissions (see notes 2 and 27, *supra*) leads NLA to continue, "A more plausible case could be made that the presence of a low concentration of lime particles in the air could actually be beneficial in minimizing so-called acid rains, neutralizing molecules of airborne acid gases, like SO<sub>2</sub> and NO<sub>x</sub> into harmless compounds." R. 139, 19, App. 201. We think the danger of particulate emissions' effect on health has been sufficiently supported in the Agency's (and its predecessor's) previous determinations to provide a rational basis for the Administrator's finding in this case. See Air Quality Criteria for Particulate Matter, *supra*. Moreover, whatever its impact on public health, we cannot say that a dust "nuisance" has no impact on public welfare. Congress has provided that with respect to the Clean Air Act:

All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.

42 U.S.C. § 7602(h) (Supp. I 1977); 42 U.S.C. § 1857h(h) (1976) (repealed 1977) (same). Thus, we could not say that the Administrator's determination is arbitrary, even if the dust were shown innocuous to public health. The Administrator's assessment of a pollutant's danger to public health or welfare

involves questions which are "particularly prone to uncertainty," and as a result "the statute accords the [Administrator] flexibility to assess [those] risks and make essentially legislative policy judgments . . . ." *Ethyl Corp. v. EPA*, 176 U.S.App.D.C. 373, 541 F.2d 1, 24, 26 (1976), *cert. denied*, 426 U.S. 941, 96 S.Ct. 2663, 49 L.Ed.2d 394 (1976). These policy choices "are not susceptible to the same type of verification or refutation by reference to the record as are some factual questions," *Industrial Union Department, AFL-CIO v. Hodgson*, 162 U.S.App.D.C. 331, 499 F.2d 467, 475 (1974), and consequently are not subject to review with the "substantive rigor proper for questions of fact," *Ethyl Corp. v. EPA*, *supra*, 541 F.2d 1 at 24. Instead, our "paramount objective is to see whether the agency, given an essentially legislative task to perform, has carried it out in a manner calculated to negate the dangers of arbitrariness and irrationality in the formulation of rules for general application in the future." *Automotive Parts & Accessories Ass'n, Inc. v. Boyd*, 132 U.S.App.D.C. 200, 407 F.2d 330, 338 (1968).

*Nat'l Asphalt*, 539 F.2d at 783-84. Our conclusion in *Nat'l Asphalt* is equally applicable here:

Particulate matter poses enough of a threat to public health to warrant the promulgation of air quality standards—which are aimed at reducing existing levels of particulate matter—and we have no basis on this record to dispute the Administrator's decision that there is a need to prevent further deterioration of "clean air" by establishing additional national standards of performance for particulate matter.

*Id.* at 784.

49. See generally *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 642-43; DeLong, *Informal Rulemaking and the Integration of Law and Policy*, 65 Va.L.Rev. 257, 298-301 (1979) (discussing shifting burdens of proof in informal rulemaking). See also *Environmental Defense Fund v. EPA*, 548 F.2d 998, 1013-15 (D.C.Cir. 1976), *cert. denied*, 431 U.S. 925, 97 S.Ct. 2199, 53 L.Ed.2d 239 (1977) (Leventhal, J.) (discussing burdens of proof in administrative proceedings).

50. The Agency's invitation and the industry's lack of response are discussed *infra*, text following note 87.

51. We recognize, of course, that the costs of compliance may be unequally distributed or distributed differently than the costs of obtaining data.

52. It is one thing to generalize from a sample of one when one is the only available sample, or when that one is shown to be representative of the regulated industry along relevant parameters. See, e. g., *Essex Chemical*, 486 F.2d at 438. It is another thing altogether to generalize from an extremely limited sample when a broader sample (both different conditions at the same plant and conditions at different plants) can be readily obtained and when no showing of the representativeness of the sample is made. See, e. g., *Ethyl Corp. v. EPA*, 541 F.2d 1, 38 (D.C.Cir.) (*en banc*), *cert. denied*, 426 U.S. 941, 96 S.Ct. 2663, 49 L.Ed.2d 394 (1976); *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 625, 642.

53. See *Portland Cement I*, 486 F.2d at 394: "In order that rule-making proceedings to determine standards be conducted in orderly fashion, information should generally be disclosed as to the basis of a proposed rule at the time of its issuance."

54. Our review of the 1977 Clean Air Act Amendments has generated additional doubts. For example, in the development of these NSPS, EPA appears to have given no consideration to the new requirement that NSPS be achievable under systems of *continuous* emission control. 42 U.S.C. § 7411 (Supp. I 1977). See note 43, *supra*. Addition of the word "continuous" in 1977 was meant to ban the use of "intermittent" controls. H.R.Rep. No. 294, 95th Cong., 1st Sess. 190 (1977), *reprinted in* 4 Legislative History at 2657. (House intent to ban intermittent control measures for new stationary sources under § 111); H.R.Conf.Rep. No. 564, 95th Cong., 1st Sess. 129 (1977), *reprinted in* 3 Legislative History at 509 (same); *Id.* at 130, 3 Legislative History at 510 (Senate concurrence in House intent). The "intermittent" controls that concerned Congress were any of those which entailed temporary reductions in emissions when weather conditions were poor. H.R.Rep. No. 294, 95th Cong., 1st Sess. 81 (1977), *reprinted in* 4 Legislative History at 2548 (speaking of intermittent controls as those which temporarily reduce or defer emissions when meteorological conditions adversely affect emissions dispersion); *Id.* at 86, 4 Legislative History at 2553 (describing an intermittent control system which reduced the load of a generator during peak pollution periods); *Kennecott Copper Corp. v. Train*, 526 F.2d 1149, 1155 (9th Cir. 1975), *cited in* H.R.Rep. No. 294, 95th Cong., 1st Sess. 82 (1977), *reprinted in* 4 Legislative History at 2549 (characterizing temporary use of low sulfur fuel during adverse conditions as "intermittent"). But it is not clear that in requiring systems of "continuous" emission reduction the Congress banned only deliberate reductions in emissions when weather conditions were poor. There are some indications that the 1977 Amendments were intended to prohibit *all* averaging to determine compliance where continuous emission reduction systems were specified. See H.R.Rep. No. 294, 95th Cong., 1st Sess. 92, *reprinted in* 4 Legislative History at 2559, U.S.Code Cong. & Admin.News 1977, p. 1170 ("Any emission limitation under the Clean Air Act, therefore must be met on a constant basis, not on an 'averaging' basis . . . . The 'averaging' method is not allowable, precisely because it cannot provide assurances that the emission limitation will be met at all times."); 123 Cong.Rec. H8662, H8664 (daily ed. Aug. 4, 1977) (statement of intent with respect to Conference Committee substitute, referring to NSPS for fossil-fuel fired boilers) ("No averaging in fuel content or in emissions content or levels [will be] allowed in determining whether the prescribed performance standard will be met by a source."). Whether the 1977 Amendments have effectively repealed the regulations permitting flexibility to account for startups, shutdowns and malfunctions—regulations applauded by this court in *Portland Cement I*, 486 F.2d at 398-99—is certainly unclear. Such variations, unlike the kinds of "intermittent" reductions which concerned Congress, are less within the industry's control. The impact of the 1977 Amendments on EPA's compliance-testing methodology, which relies on *average* readings both for mass emission and opacity standards, 40 C.F.R. § 60.8(f) (1979); 40 C.F.R. Part 60, App. A, § 2.5 (1979), is equally unclear. It may be that a reasonable construction of the statutory language would leave these regulations intact. However, we think the perplexing implications of Congress' new requirement of systems of continuous emission reduction should first be addressed by the Administrator and there is no evidence in the record that the Agency considered or reconsidered its proposed standard in light of this or other aspects of Congressional intent in the 1977 Clean Air Act Amendments.

55. The plants are identified in the support statement only by letter. The plants (and the methods of emissions control they employ) are as follows: Plant A (baghouse); Plant B (baghouse); Plant C (ESP); Plant D (ESP); Plant E (baghouse); Plant F (scrubber). The tests were conducted under EPA's "Method 5" for the measurement of particulate emissions. Method 5 consists of withdrawal of sample emissions by means of a probe inserted into the wall of a smokestack, through which sample emissions are withdrawn by means of a pump set to correspond to the velocity of the air within the stack. 40 C.F.R. Part 60, App. A (1979).

56. The six rotary kiln plants selected for testing were those "deemed to employ best systems of emission reduction." SSEIS A-1. This determination was based both on information obtained during the initial visit "on the process and the equipment used to control emissions," *id.*, and on an evaluation of the visibility of emissions. *Id.* That emission visibility factored into the selection of plants for more thorough testing seems clear from EPA's explanation at oral argument of the reasons why Plant A was selected for testing. Counsel for the Agency explained: "I believe . . . that it was reported to the Agency that A was a well-controlled plant and that persons had observed no visible emissions at all from the Plant A stacks, which seemed to be an indication it was well controlled."

57. SSEIS 8-17. The Plant A test results and the rationale for their exclusion from consideration are discussed below, text at note 91. One of the five considered (Plant F) was, like Plant A, thought not to represent best technology, 42 Fed.Reg. 22507 (1977), but the results of these tests were presented, if not treated, differently in the Standards Support Statement. See SSEIS C-12 (Table C-1 including Plant F data but excluding data from Plant A).

58. Plant D did not consistently meet the standard. The Plant F test results did not meet the standard at all. EPA concluded that Plant F, controlled by a low-pressure scrubber, did not represent best technology but that a higher pressure scrubber would be able to meet the proposed standard. 42 Fed.Reg. 22507 (1977). Plant A, excluded from consideration in standard development, was also unable to meet the standard. SSEIS 8-17.

59. The certified index to the record lists eight "EPA Studies or Contract Reports" as "Items Considered in Developing Proposal." Four of these relate primarily to the economics of emissions control. Among these studies and reports, only the MRI Report, the Vulcan Report, *infra* note 60, and to some extent a document prepared by the National Air Pollution Control Administration, titled Study of Technical and Cost Information for Gas Cleaning Equipment in the Lime and Secondary Non-Ferrous Metallurgical Industries, R. 1 (Dec. 31, 1970) [hereinafter cited as Study of Technical and Cost Information] provided the kind of information from which the EPA might have postulated potentially relevant factors in the emission of particulates under various systems of control. Available literature, of course, is another source for such information. See, e. g., R. Boynton, Chemistry and Technology of Lime and Limestone (1966).

60. Small feed size is associated with high volume dust generation in another background study on which EPA relies in support of this standard. Vulcan-Cincinnati, Inc., Screening Study for Emissions Characterization From Lime Manufacture, R. 5, 145 (Aug. 30, 1974) [hereinafter cited as Vulcan Report] (commenting on emissions from fluidized bed kilns using small feed size).

61. See *also* Vulcan Report at 19.

62. "Dolomitic" limestone contains a high proportion of magnesium. R. Boynton, Chemistry and Technology of Lime and Limestone 10 (1966).

63. Our purpose in noting the criticisms of the standard made by the NLA is to illustrate the difficulties created by EPA's failure expressly to consider at least in its support statement and possibly at the pre-proposal level both geographic and temporal variations in conditions which might bear on emissions levels. By mentioning feed size, for example, as one variable which might have been considered we do not imply that this factor necessarily bears on the "achievability" of the standard rather than on the costs of its implementation. See note 46, *supra*.

64. See text at note 71, *infra* (EPA assertion that three of six plants tested generated higher levels of dust than average dust generation in 11 plants for which data were submitted by NLA).

65. See *also* Study of Technical and Cost Information 34.

66. E. g., letter dated April 22, 1977 from chief chemist at Woodville Lime and Chemical Company to EPA, R. 316, App. 174. Unfortunately, the industry did not make clear whether it was more concerned with the validity of the test results—which because of the difficulties in accurate measurement under such conditions may be questionable—or with EPA's reliance on less than capacity results, even if valid, to project an "achievable" standard for capacity operations.

67. *Essex Chemical*, 486 F.2d at 436. (The regulations there in question, however, unlike those here, expressly required performance tests while the affected facility operated at the maximum pollutant-production rate.) The regulations governing performance tests now specify testing "under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility." 40 C.F.R. § 60.8(c) (1979). Like "feedstock," "operation" was listed by the EPA as one criterion of "representativeness" for which data on emissions are assessed before standards are proposed. SSEIS 207. We take consideration of the "representativeness" of operation to include consideration of the percentage of capacity of operation.

68. Figures for percentage of rated capacity and air flow rate measurements were provided for each rotary kiln tested for particulate emissions. SSEIS App. C.

69. The flow rate appears to bear a direct relationship to the capacity of the plants, Plant E having a 264 ton per day capacity and Plant C having a much greater capacity, though customarily operated with only two of its three kilns burning.

70. MRI Report, *supra*, note 2.

71. As already noted and discussed below, test results for Plant A were excluded from consideration in proposing the standard.

72. Moreover, we cannot ascertain from the test data contained in the SSEIS how EPA measured uncontrolled dust emissions at its test kilns. In addition, dust generation rates are stated only for the baghouse-controlled kilns for which test results are reported. No dust generation levels are stated for the other three kilns tested for particulate emissions.

73. The SSEIS contains no statement to this effect or data which would suggest this conclusion.

74. The statement relates only to the baghouse method. If the ESP and scrubber do not share with the baghouse this toleration of higher dust concentrations, then it is possible that kilns experiencing higher dust loading than the average would effectively be required to install a baghouse in order to achieve the standard. EPA's operating assumptions, however, were quite different: the Agency assumed that any of the three control methods identified as "best" could be designed to meet the standard. An incorrect assumption of this sort would not necessarily taint the proceeding, whose purpose is to state an "achievable" standard under *any* "adequately demonstrated" system. However, the incorrect assumption would probably have been reflected in the Agency's cost analysis, *viz.*, the Agency would have assumed that a broader choice of control methods was available to the industry than in fact was available. To the extent that the cost analysis depends on an incorrect assumption like this one, the rationale for the standard may be flawed. *Cf. Portland Cement I*, 486 F.2d at 396 (noting no substantiation of achievability of standard for kilns employing alternate mode of processing feed) ("We are not here considering a regulation that was issued in the contemplation that all new cement plants will be dryprocess . . .").

75. In a section of the SSEIS dealing with the conversion of plants from the burning of oil or gas to the burning of coal, EPA states, relying on tests conducted at a coal-converted baghouse-controlled rotary *cement* kiln, that "[a] baghouse has proven to be rather insensitive to small changes in the inlet loading." SSEIS 5-3. No details are supplied and what is meant by "small changes" is unclear.

76. Commenting on the proposed standards, the Department of the Interior noted:



The maximum variations in the dusting rates of some limestones during calcination indicate that some lime plants may find it very difficult to conform to the particulate emission requirements of 0.15 Kg/Mg of limestone feed. We suggest that if it can be demonstrated by the plant operator that a particularly high-dusting limestone is in use, some decrease in the particulate recovery efficiency could be considered.

R. 153, 3 (letter dated July 5, 1977 from Deputy Assistant Secretary of Interior to Goodwin of EPA).

77. See H.R.Rep. No. 294, 95th Cong., 1st Sess. 187, 192 (1977), *reprinted in* 4 Legislative History at 2654, 2659.

78. Coal burning adds significant amounts of sulfur dioxide (SO<sub>2</sub>) to the effluent mix. Much of the SO<sub>2</sub> released in lime kilns reacts with the kiln dust, altering the chemical composition of the particulate to be controlled. 42 Fed.Reg. 22507 (1977) (reduction in SO<sub>2</sub> emissions due to reaction with lime dust); SSEIS 3-9. Use of high sulfur coal produces more SO<sub>2</sub> and might be expected to aggravate the control problems attributable to an alteration in the chemical mix of emissions.

79. In fact, elsewhere in the SSEIS EPA states, "The effect of fuel conversion on collection efficiency when an ESP is used to control particulate emissions is not known." *Id.* at 5-3.

80. Insofar as appears from the record, no chemical analysis was undertaken of the dust particles generated at any of the test plants—ESP-controlled or otherwise.

81. EPA's acknowledgment gives support to an NLA assertion that "coal ash contributes 15 percent to 20 percent to the flue dust generated in a rotary kiln." R. 139, 6, App. 188.

82. See discussion, *supra*, text at notes 71-76 (concerning relevance of dust quantity generated to achievability of standard).

83. EPA pointed to a study of a baghouse-controlled rotary *cement* kiln, where conversion to coal resulted in no increase in controlled emissions. SSEIS 5-3. No details of the study are supplied.

84. In requiring that the standards promulgated reflect only "technological" systems of emission reduction, Congress was in part concerned with withdrawing the regulatory incentive to use naturally "clean" fuels (e. g., gas) to meet emission standards. See H.R.Rep. No. 294, 95th Cong., 1st Sess. 188 (1977), *reprinted in* 4 Legislative History at 2655.

85. In addition, shortly after the proposed standards were published the NLA remarked that baghouses "require . . . coarse particles in order to develop the filter cake [on the interior of the filter screen] necessary for removal of the fine [particles]." R. 103, 11, App. 70.

86. However, the decreased performance on smaller particles may not be very great. The Vulcan Report includes a table showing fabric filter efficiency at 99.8% for five micron particles, declining to 99% for particles measuring one micron. *Id.* at 33.

87. In discussing the lime hydrator standard, *infra*, we question whether wet scrubbers might not be subject to a similar disability.

88. EPA also argues that a variety of kilns were able to meet the standard and that therefore no adjustment for particulate size is necessary. Brief for Respondent at 18. We find this argument puzzling and not persuasive; the industry's position had not been that particle size varies with the type of kiln but that it varies with the type of feed.

89. In response to the proposed standards NLA stated:

We have been unable to develop or obtain information that would substantiate the influence particulate size has on collection efficiency, but feel certain that a glass filter bag is more efficient with coarser particulates.

R. 139, 8, App. 190. See also R. 140, 38, App. 283 (NLA spokesman orally reiterating this concession).

90. In *Portland Cement I*, we said:

Manufacturers' comments must be significant enough to step over a threshold requirement of materiality before any lack of agency response or consideration becomes of concern. The comment cannot merely state that a particular mistake was made in a sampling operation; it must show why the mistake was a possible significance in the results of the test.

486 F.2d at 394. See 42 U.S.C. § 7607(d)(6)(B) (Supp. I 1977) (response required to "significant comments"). See also *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553-55, 98 S.Ct. 1197, 1216-17, 55 L.Ed.2d 460 (1978).

91. Plant A averaged 0.23 kilogram per megagram (SSEIS 8-17); Plant F averaged 0.216 kilogram per megagram (*id.*); the standard proposed was (and the promulgated standard is) 0.15 kilogram per megagram.

92. "Plant A had the highest emission rate of the six that were tested. The measured oxygen concentration was also highest for this plant." SSEIS 8-17; *id.* C-71. In a subsequent test of Plant A conducted by the industry, an effort to reduce air leakage resulted in an O<sub>2</sub> measurement of 10%, substantially below the 19.5% figure registered by the EPA and within the range of O<sub>2</sub> measurements (7.7% to 14.4%) obtained at the other two baghouse controlled kilns. Controlling for air leakage did not produce a significant reduction in measured emissions. R. 139, 7-8, App. 189-90.

93. "[T]he oxygen data appear to be incorrect." R. 162, 11, App. 351.

94. *But cf. Nat'l Asphalt*, 539 F.2d at 787 (standard approved where EPA excluded from consideration two out of four industry-conducted tests because Agency concluded plants not well-controlled).

95. The process described above, text at note 13, for the production of slaked lime, is that of atmospheric hydrators. Pressure hydrators, as the name implies, differ in that they apply pressure to speed the slaking of dolomitic stone. See *generally* R. Boynton, Chemistry and Technology of Lime and Limestone, 333-37 (1966).

96. An additional source was industry-tested and the results, which appear to meet the proposed standard, are summarized in the SSEIS at C-65. The Agency, however, does not rely heavily (if at all) on the results of this test in the promulgation of its standard. Both the SSEIS at 8-18 and the notice of proposed rulemaking, 42 Fed.Reg. 22508 (1977), refer only to the two EPA-conducted tests. It appears that EPA began testing on a third plant but abandoned it when the test conditions (i. e., high gas moisture content) prevented the generation of valid test results. SSEIS D-2.

97. The first plant (H-A) was tested once on each of three consecutive days in April 1974. SSEIS C-66. The second plant (H-B) was tested once on one day in September 1975 and twice again five days later. *Id.* C-68. The last test on H-B produced the highest emission levels of the six EPA tests, a level in excess of the proposed standard. Tests conducted at a third hydrator facility are included in the summary data for hydrators contained in the SSEIS, *id.* at C-65, but were apparently excluded from consideration in developing the standard because the tests, as noted above, were thought unreliable. *Id.* at D-2.

98. The following appears on a page headed "Lime Hydrators" contained in the NLA's formal presentation to the EPA, June 1977:

There is no discussion presented [by the EPA] concerning the type of material being processed [in lime hydrators]. In this regard, we have observed that different types of limestone yield vastly different types of hydrated lime. Also, the type of calcination equipment used to produce the quicklime and the degree to which the quicklime is ground prior to hydration all contribute significantly to the fineness of the resulting hydrated lime. Investigators have observed specific surface of hydrated limes to vary from 5,000 to 110,000 cm<sup>2</sup>/g with a geometric weight mean diameter variation between 2.9 and 7.8 microns. These variations do not necessarily correspond to each other. In addition, data from ASTM[2] further substantiates this wide variation of hydrated limes. In a research program nine (9) participating laboratories tested hydrated lime from nineteen (19) sources and found surface area to range from 5,419 to 24,366 cm<sup>2</sup>/g. It was also found that sieve fineness as determined by percent passing a No. 325 sieve varied from 75.7 to 99.04%.

R. 139, 13, App. 195 (footnotes omitted).

99. SSEIS 4-8 - 4-9, 4-13 - 4-14.

100. Furthermore, the Agency expressly predicated its standard on an average emissions level which included at least one test where emissions exceeded the proposed standard, Fed.Reg. 22508 (1977); SSEIS 8-18, a possibly questionable basis in light of the 1977 Clean Air Act Amendments' emphasis on systems of continuous emission control. See discussion *supra*, note 54.

101. See note 34, *supra*.

102. See note 32, *supra*.

103. NLA makes a three-pronged attack on the opacity standard. First, it argues the inherent inaccuracy of opacity testing. Second, it points to the discrepancies between the 10% standard promulgated here and the 20% standard promulgated for portland cement and asphalt concrete plants. Third, it notes EPA's failure to abide by its stated methodology in standard-development testing. Our conclusion to remand the standard derives in part from our examination of the materials drawn to our attention by the industry in connection with the first two prongs of the industry's attack and in part from our conclusion with respect to the mass emission standard above. We reject the third prong of the industry's attack—EPA's failure to abide by its own "Method 9" in obtaining the test results on which the standard is based. The articles concerning opacity testing submitted by the NLA themselves demonstrate that in most cases the alleged failure to abide by the standards would have had the effect of overestimating rather than underestimating opacity. That is, EPA's mistakes would have laid the basis for a standard which was easier, not harder, to achieve by the industry.

104. EPA, Response to Remand, 85-125.

105. See 38 Fed.Reg. 28564 (1973) (opacity standards will not apply to emissions during periods of startup, shutdown and malfunction); 39 Fed.Reg. 39872 (1974) (raising opacity standard from 10% to 20% for portland cement plants, providing some weight may be given in enforcement to discrepant transmissometer readings, adding sort of variance procedure for plants that meet performance but not opacity standards, providing that accuracy of method must be taken into account in enforcement, specifying average of 24 readings at 15 second intervals for enforcement purposes and specifying observer position with respect to both sun and plume).

106. In responding to the contentions of the Portland cement industry on remand from *Portland Cement I*, EPA stated a general principle that plume opacity varies with the size of the particles emitted. The industry there argued

that opacity varies with particle size and shape, so that a given mass concentration of particles—which could be composed of various combinations of different size and shape particles—could result in differing opacities. *EPA agrees that this correctly states the theory of plume transmittance (opacity) as it relates to particle dimensions.*

*Id.* (emphasis supplied). Having conceded this principle, EPA supported its standard as follows:

In typical high efficiency collector exhaust gases there are generally few particulates larger than 40 microns diameter. The predominant number of particles are between 0.5 and 10 microns with the average size being about 2-4 microns. Maximum light scattering is generally acknowledged to be caused by particles in the size range of 0.2 to 2.0 micron. Available data indicate that the size distribution of particulates released from well controlled cement kilns are similar within a narrow range (approximately 2 to 6 microns) from one kiln to another, and therefore from one plant to another.

What the above data and studies indicate, in short, is that the size of particles emitted by plants with such control equipment varies only within a very narrow range. This variability in average size is theoretically not sufficient to cause more than a  $\pm 5$  percent variation in opacity for typical cement kilns.

*Id.* at 113 (footnotes omitted). Variations in particle size were thus considered and found not to warrant a change in the opacity standard. Whether such variations were attributable to different *feed composition* is not clear.

107. See EPA, Reevaluation of Standards of Performance for Asphalt Concrete Plants 4 (Nov. 1974):

The opacity standard applicable to asphalt concrete plants has been established at a level (less than 20 percent) such that, taking into account all of the variations in particle size, shape and stack size encountered by asphalt concrete plants, violation of the opacity standard is indicative of a violation of the mass standard.

(The opacity standard for asphalt concrete plants, originally promulgated in March 1974, 39 Fed.Reg. 9307 (1974), was affirmed by this court in *Natl' Asphalt*, 539 F.2d 775 (1976).)

108. That different industries may be subject to different standards and that the Administrator need not bear the burden of explaining those differences is clear.

[T]he Administrator is not required to present affirmative justifications for different standards in different industries. Inter-industry comparisons of this kind are not generally required, or even productive; and they were not contemplated by Congress in this Act. The essential question is whether the mandated standards can be met by a particular industry for which they are set, and this can typically be decided on the basis of information concerning that industry alone. This is not to say that evidence collected about the functioning of emission devices in one industry may not have implications for another. Certainly such information may bear on technological capability. But there is no requirement of uniformity of specific standards for all industries. The Administrator applied the same general approach, of ascertaining for each industry what was feasible in that industry. It would be unmanageable if, in reviewing the cement standards, the court should have to consider whether or not there was a mistake in the incinerator standard, with all the differences in parties, practice, industry procedures, and record for decision. Of course, the standard for another industry can be attacked, as too generous, and hence arbitrary or unsupported on the record, by those concerned with excessive pollution by that industry. There is, therefore, an avenue of judicial review and correction if the agency does not proceed in good faith to implement its general approach. But this is different from the supposition that a claim to the same specific treatment can be advanced by one who is in neither the same nor a competitive industry.

*Portland Cement I*, 486 F.2d at 389-90.

109. EPA contends that NLA did not make such an objection at the administrative level. Brief for Respondent at 28. EPA's contention is refuted by the record. EPA's failure to consider particle size and shape was raised both in connection with the opacity standard, R. 139, 14, App. 196, and in connection with the mass emission standard. See text following note 87, *supra*.

110. It is possible that the plants tested here were in effect selected for their large particle size. Thirty-nine plants thought to be "well controlled" were visited by EPA and six were selected from among these for testing because of their low level of visible emissions. As already noted, larger particles produce less visible emissions.

111. Of six-minute average readings "normalized" for stack diameter, "[o]ver 67 percent of the six-minute averages were equal to zero and over 82 percent of the averages were less than or equal to five percent opacity. Only 0.4 percent of the normalized averages exceeded 10 percent opacity. The highest single average read was 10.6 percent opacity." SSEIS 8-20; Brief for Respondent at 27. Like EPA, we are puzzled by the NLA's assertion (Brief for Petitioner at 36) that the opacity standard is based on the test results of only one plant. We presume NLA seeks by this assertion to pin the Agency to its final support statement, SSEIS II at 13, where it examines the test results from Plant D (from which the worst readings were obtained). But it is clear that the Agency does not rely on the results obtained from this one plant in support of its standard. SSEIS 8-19—8-20.

112. Brief for Respondent at 27 n.18; 40 C.F.R. Part 60, App. A (Method 9) (1979): "The accuracy of the method must be taken into account when determining possible violations of applicable opacity standards." The regulations also allow for "excursion" from the standards during periods of startup, shutdown or malfunction. 40 C.F.R. § 60.8(c) (1979).

113. As described when the mechanism was first announced in connection with the portland cement remand:

This provision is intended primarily to apply to cases where a source installs a very large diameter stack which causes the opacity of the emissions to be greater than if a stack of the diameter ordinarily used in the industry were installed. Although this situation is considered to be very unlikely to occur, this provision will accommodate such a situation. The provision could also apply to other situations where for any reason an affected facility could fail to meet opacity standards while meeting mass emission standards, although no such situations are expected to occur.

39 Fed.Reg. 39872-73 (1974).

114. SSEIS 8-19 (referring to the "variance" mechanism); SSEIS II, 13 (referring to enforcement discretion to accommodate method inaccuracy); Brief for Respondent at 27 n.18 (same).

115. *Portland Cement I*, 486 F.2d at 399; *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 641.

116. *Portland Cement I*, 486 F.2d at 399 n.91: "Companies must be on notice as to what will constitute a violation. Moreover, an excessively broad theory of enforcement discretion might endanger securing compliance with promulgated standards." *Cf. E. I. duPont de Nemours & Co. v. Train*, 430 U.S. 112, 137-39, 97 S.Ct. 965, 51 L.Ed.2d 204 (1977) (variance authority will not be implied in statutory provision for new source effluent discharge standards under Federal Water Pollution Control Act). *But cf. Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1056-58 (D.C.Cir. 1978) (Agency may handle "upset" conditions for effluent limitations for existing sources under Federal Water Pollution Control Act by exercising enforcement discretion rather than through "excursion" regulations).

117. *Portland Cement I*, 486 F.2d at 400.

118. See 39 Fed.Reg. 9309 (1974).

119. *E. g.*, *Portland Cement II*, 513 F.2d at 507, 508-09 (upholding 20% opacity standard against petitioner's arguments that "pollution and plume opacity cannot be reliably correlated and evaluations of the same plume by several qualified observers will vary substantially"); *Nat'l Asphalt*, 539 F.2d at 787 (upholding against challenge to reliability 20% opacity standard for asphalt concrete plants in light of *Portland Cement II*'s decision with respect to similar standards).

120. NLA does not take issue with the quite different continuous monitoring requirements for scrubber-controlled systems. Scrubber-controlled systems are monitored not for opacity but for liquid supply pressure and pressure drop in the scrubber. See text at note 33, *supra*.

121. Forty C.F.R. § 60.13 (1979) governs continuous monitoring requirements. Performance specifications for continuous monitoring equipment are set forth in Appendix B to 40 C.F.R. Part 60 (1979). EPA explained that in this case:

The visible emissions monitoring systems that are adequate for other stationary sources, such as steam generators, covered by performance specifications contained in Appendix B of 40 C.F.R. [Part] 60 (Federal Register, October 6, 1975) should also be applicable to lime plants, except where condensed moisture is present in the exhaust stream.

SSEIS D-8. Equipment and installation costs for visible emissions monitoring were estimated at \$18,000 to \$20,000 per site. *Id.* Annual operating costs, including recording of data, were estimated at \$8,000 to \$9,000 per site. *Id.*

122. 40 Fed.Reg. 46250, 46255, 46256, 46257 (1975).

123. See 40 C.F.R. § 60.165(b)(1) (1979) (primary copper smelters); 40 C.F.R. § 60.-175(a)(1) (1979) (primary zinc smelters); 40 C.F.R. § 60.185(a)(1) (1979) (primary lead smelters); 40 C.F.R. § 60.264(a) (1979) (ferroalloy production facilities); 40 C.F.R. § 60.273(a) (1979) (electric arc furnaces in steel mills).

124. See 40 C.F.R. § 60.284(a)(1) (1979) (kraft pulp mills). None of these monitoring requirements has been the subject of judicial review.

125. On October 22, 1979, EPA announced an intention to require continuous opacity monitoring at portland cement plants. 44 Fed.Reg. 60761 (1979), but the requirement was not then formally proposed.

126. *E. g.*, Rodgers, *A Hard Look at Vermont Yankee: Environmental Law Under Close Scrutiny*, 67 Geo.L.J. 699, 704 (1979) [hereinafter cited as *A Hard Look at Vermont Yankee*]; Breyer, *Vermont Yankee and the Courts' Role in the Nuclear Energy Controversy*, 91 Harv.L.Rev. 1833, 1834 (1978); W. Rodgers, *Environmental Law* 19 (1977). The phrase "hard look" derives from Judge Leventhal's opinions in *Greater Boston Television Corp. v. FCC*, 444 F.2d 841 (D.C.Cir.1970), *cert. denied*, 403 U.S. 923, 91 S.Ct. 2229, 29 L.Ed.2d 701 (1971), and *Pike's Peak Broadcasting Co. v. FCC*, 422 F.2d 671 (D.C.Cir.), *cert. denied*, 395 U.S. 979, 89 S.Ct. 2134, 23 L.Ed.2d 767 (1969). As originally articulated the words "hard look" described the agency's responsibility and not the court's. However, the phrase subsequently evolved to connote the rigorous standard of judicial review applied to increasingly utilized informal rulemaking proceedings or to other decisions made upon less than a full trial-type record. Judge Leventhal himself used the phrase in this sense in *Maryland-Nat'l Capital Park and Planning Comm'n v. United States Postal Serv.*, 487 F.2d 1029, 1037-38 and n.4 (D.C.Cir.1973). The etymological evolution of the phrase "hard look" and of other capsule descriptions of standards stated on judicial review of administrative decisions is in no small part attributable to the shifting meaning of "informal rulemaking." The transformation in informal

rulemaking proceedings in turn can be traced to the more rigorous standards of review applied. As originally conceived, "notice and comment" rulemaking provided a scant "record" for review. The statutorily required rationale consisted merely in "a concise general statement of [the rule's] basis and purpose." 5 U.S.C. § 553(c) (1976). The cumbersomeness of rulemaking "on the record" and its attendant delays prompted increased provision for the more flexible and expedient "notice and comment" rules in areas in urgent need of regulation. See Pedersen, *Formal Records and Informal Rulemaking*, 85 Yale L.J. 38, 39 (1975) [hereinafter cited as Pedersen]. The sheer massiveness of impact of the urgent regulations issued under the new rulemaking provisions and the diffidence of judges in the face of highly technical regulatory schemes prompted the courts to require the agencies to develop a more complete record and a more clearly articulated rationale to facilitate review for arbitrariness and caprice. See *Kennecott Copper Corp. v. EPA*, 462 F.2d 846, 849-50 (D.C. Cir. 1972) (remand of national secondary ambient air quality standards to EPA for additional rationale); K. Davis, *Administrative Law of the Seventies*, § 29.01-6 (1976); Stewart, *Vermont Yankee and the Evolution of Administrative Procedure*, 91 Harv. L. Rev. 1805, 1812-13 (1978); Nathanson, *Probing the Mind of the Administrator: Hearing Variations and Standards of Judicial Review Under the Administrative Procedure Act and Other Federal Statutes*, 75 Colum. L. Rev. 721, 746-70 (1975). (Indeed, a section of the Clean Air Act Amendments of 1977 not applicable to the instant proceedings expressly codified much of prior law and the suggestions made in Pedersen concerning the "formalization" of records in informal rulemaking. 42 U.S.C. § 7607(d) (Supp. I 1977); H.R. Rep. No. 294, 95th Cong., 1st Sess. 320 (1977), *reprinted in* 4 Legislative History at 2787.) As these newly-required records and rationales became more routinely available, the "hard look" taken began to appear more judicial than administrative, blurring the original meaning of that phrase. The availability for judicial review of substantial administrative records has also generated both confusion and controversy over the applicable standard of review under the Administrative Procedure Act. See generally DeLong, *Informal Rulemaking and the Integration of Law and Policy*, 65 Va. L. Rev. 257, 284-89 (1979); Auerbach, *Informal Rulemaking: A Proposed Relationship Between Administrative Procedures and Judicial Review*, 72 Nw. U. L. Rev. 15 (1977); Pedersen, at 46-49.

127. H.R. Conf. Rep. No. 564, 95th Cong., 1st Sess. 178 (1977), *reprinted in* 3 Legislative History 558, U.S. Code Cong. & Admin. News 1977, p. 1559:

With respect to the "arbitrary and capricious" scope of review retained in these amendments, the conferees intend that the courts continue their thorough, comprehensive review which has characterized judicial proceedings under the Clean Air Act thus far.

The conferees also recognized the convergence in practice of the "substantial evidence" and the "arbitrary and capricious" standards of review. *Id.* (reinstating "arbitrary and capricious" standard of review):

In changing the scope of review as contained in the House bill, the conferees were aware that there may be little practical difference between the "substantial evidence" scope of review and the "arbitrary and capricious" scope of review and that the two tests tend to converge as described by recent court decisions. [Referring to *Assoc. Indus. v. Dep't of Labor*, 487 F.2d 342 (2d Cir. 1973)].

128. *Ethyl Corp. v. EPA*, 541 F.2d at 25 (*en banc*) (review of regulations under Clean Air Act requiring reduction of lead content of gasoline). Congress has authorized the Administrator to "distinguish among classes, types and sizes within categories of new sources for the purpose and establishing . . . standards [under § 7411]," 42 U.S.C. § 7411(b)(2) (Supp. I 1977). But the Administrator has not availed himself of the discretion to account for variations in conditions covered by the standard here. Compare the extensive exercise of analogous discretion (with respect to *existing* facilities) under the Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq.* (Supp. I 1977). *Weyerhaeuser Co. v. Costle*, 590 F.2d at 1053 (300 pulp and paper plants classified into 16 subcategories and 66 subdivisions, with different limitations for each subdivision). See also Judge Leventhal's concurring opinion in *ASARCO, Inc. v. EPA*, 578 F.2d 319, 330 (D.C. Cir. 1978) (noting the Administrator's discretion to classify under § 111 of the Clean Air Act).

129. *Portland Cement I*, 486 F.2d at 396 (Agency must explain generalization of standard based on tests of dry-process kilns to wet-process kilns). Cf. *AFL-CIO v. Marshall*, 617 F.2d at 656-657 (D.C. Cir. 1979) (challenge to technical feasibility of OSHA cotton dust regulation upheld where mills meeting the standard ran the "dustiest variety" of cotton); *Weyerhaeuser Co. v. Costle*, 590 F.2d at 1055-60 (D.C. Cir. 1978) (Agency gave adequate consideration to claimed variables in climate and hydraulic flow in establishing effluent limitations under the Federal Water Pollution Control Act). See *Natl'l Asphalt*, 539 F.2d at 786-87 (particulate standard upheld against claim that Agency "ignored a number of variables which should have been taken into account (including variations in the size, shape, and smoothness of particles in the feed aggregate, type of fuel, atmospheric conditions, and start up/shut down [of] plant operations)" when "Administrator's statements indicate an awareness of and a willingness to adjust for such factors"). See also *Ethyl Corp. v. EPA*, 541 F.2d at 38 (only rarely will single study or bit of evidence suffice) ("By its nature, scientific evidence is cumulative: the more supporting, albeit inconclusive, evidence available, the more likely the accuracy of the conclusion."); *Portland Cement I*, 486 F.2d at 396 (significance of single test doubted); *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 625 (noting that only one of 384 test vehicles was able to meet the standard).

130. *Portland Cement I*, 486 F.2d at 396-97 (use of faulty or discrepant testing procedures "raises serious questions about the validity of the standard" based on the data thereby obtained).

131. *Portland Cement I*, 486 F.2d at 396:

"It would . . . seem incumbent on the Administrator to estimate the possible degree of error [inherent] in his prediction,"

quoting *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 647.

132. *Portland Cement I*, 486 F.2d at 402; *Ethyl Corp. v. EPA*, 541 F.2d at 35-36 (*citing* several decisions of Judge Leventhal).

133. *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 632. See *Ethyl Corp. v. EPA*, 541 F.2d at 100 (Tamm, J., dissenting) (using "methodology" in a broader sense).

134. See *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 625 (where test results inconclusive EPA stated assumptions). Cf. *AFL-CIO v. Marshall*, 617 F.2d at 651 (D.C. Cir. 1979) (agency must explicate assumptions underlying predictions or extrapolations); *Portland Cement I*, 486 F.2d at 402 (where EPA relies on tests rather than predictions, it must disclose underlying data and test procedures).

135. *Portland Cement I*, 486 F.2d at 393, 400 (data and findings in literature specifically relied upon should be revealed).

136. *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 651 (Bazelon, J., concurring) ("agency [must] set forth with clarity the grounds for its rejection of opposing views").

137. Cf. *Amoco Oil Co. v. EPA*, 501 F.2d 722, 738-39 (D.C. Cir. 1974) (Administrator adequately explained regulatory approach that depended on unavailability of alternative technology).

138. *Int'l Harvester Co. v. Ruckelshaus*, 478 F.2d at 648 (requiring explanation of assumptions); *Kennecott Copper Corp. v. EPA*, 462 F.2d at 849-50 (requiring more complete rationale). See *Ethyl Corp. v. EPA*, 541 F.2d at 104, 110 (Wilkey, J., dissenting) (Agency decisions must be explained, not merely explainable, *citing* *Environmental Defense Fund, Inc. v. EPA*, 465 F.2d 528, 539 (D.C. Cir. 1972) (Leventhal, J.)). See generally *A Hard Look at Vermont Yankee* at 706.

139. *Ethyl Corp. v. EPA*, 541 F.2d at 28 n. 58:

Petitioners demand sole reliance on *scientific* facts, on evidence that reputable scientific techniques certify as certain. Typically, a scientist will not so certify evidence unless the probability of error, by standard statistical measurement, is less than 5%. That is, scientific fact is at least 95% certain.

Such certainty has never characterized the judicial or the administrative process. It may be that the "beyond a reasonable doubt" standard of criminal law demands 95% certainty. *Cf. McGill v. United States*, 121 U.S. App.D.C. 179, 185 n. 6, 348 F.2d 791, 797 n. 6 (1965). But the standard of ordinary civil litigation, a preponderance of the evidence, demands only 51% certainty. A jury may weigh conflicting evidence and certify as adjudicative (although not scientific) fact that which it believes is more likely than not. Since *Reserve Mining [Co. v. EPA]*, 514 F.2d 492 (8th Cir.1975) was adjudicated in court, this standard applied to the court's fact-finding. Inherently, such a standard is flexible; inherently, it allows the fact-finder to assess risks, to measure probabilities, to make subjective judgments. Nonetheless, the ultimate finding will be treated, at law, as fact and will be affirmed if based on substantial evidence, or, if made by a judge, not clearly erroneous.

The standard before administrative agencies is no less flexible. Agencies are not limited to scientific fact, to 95% certainties. Rather, they have at least the same fact-finding powers as a jury, particularly when, as here, they are engaged in rule-making. Looking to the future, and commanded by Congress to make policy, a rule-making agency necessarily deals less with "evidentiary" disputes than with normative conflicts, projections from imperfect data, experiments and simulations, educated predictions, differing assessments of possible risks, and the like.

*Amoco Oil Co. v. EPA*, . . . 163 U.S. App.D.C. at 175, 501 F.2d at 735.

140. EPA estimated 179 lime plants were operating in 1975. SSEIS 3-1.

141. According to the MRI Report, one study showed that 24% of 85 rotary kiln lime plants were controlled by baghouses. *Id.* at 8-9. None of the emissions control systems found by the EPA to be capable of meeting the promulgated standard utilizes a newly developed or little-used technology. All have been widely used in the industry for many years. See R. Boynton, *Chemistry and Technology of Lime and Limestone* 267-68 (1966).

142. EPA's "Method 5" was established as a reference method in 1971. 36 Fed.Reg. 24876, 24888 (1971).

143. *Cf. Ethyl Corp. v. EPA*, 541 F.2d at 28:

Where a statute is precautionary in nature, the evidence difficult to come by, uncertain, or conflicting because it is on the frontiers of scientific knowledge, the regulations designed to protect the public health, and the decision that of an expert administrator, we will not demand rigorous step-by-step proof of cause and effect. Such proof may be impossible to obtain if the precautionary purpose of the statute is to be served. Of course, we are not suggesting that the Administrator has the power to act on hunches or wild guesses. *Amoco* makes it quite clear that his conclusions must be rationally justified.

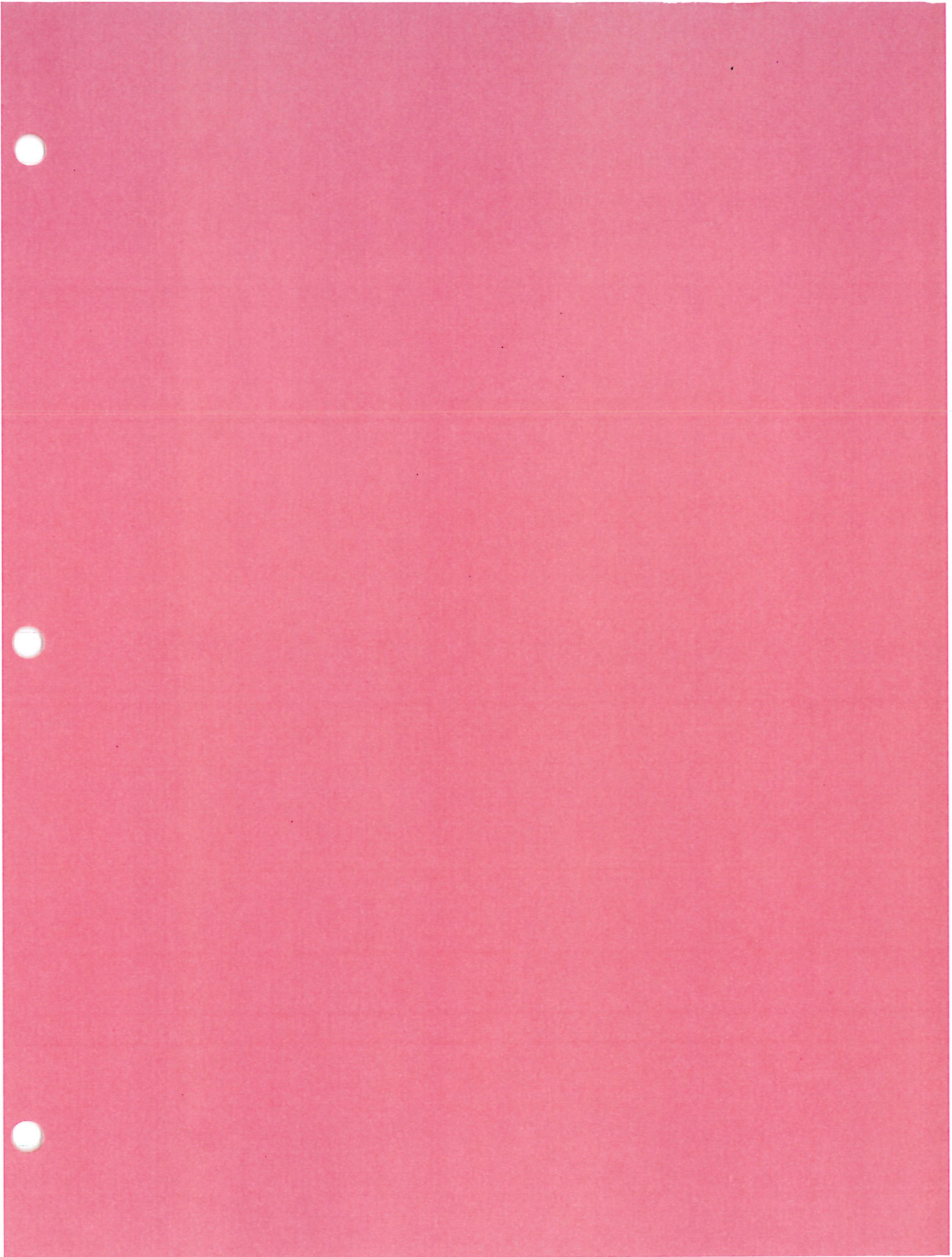
(footnote omitted) (*citing Amoco Oil Co. v. EPA*, 501 F.2d 722 (D.C. Cir.1974)).

144. *Ethyl Corp. v. EPA*, 541 F.2d 1; *Amoco Oil Co. v. EPA*, 501 F.2d at 738-39; *Indus. Union Dep't v. Hodgson*, 499 F.2d 467, 474 (D.C. Cir. 1974). See generally McGarity, *Substantive and Procedural Discretion in Administrative Resolution of Science Policy Questions: Regulating Carcinogens in EPA and OSHA*, 67 Geo. L.J. 729 (1979).

145. EPA here estimated: "Sampling costs for performing a test consisting of three Method 5 runs [are] estimated to range from \$5,000 to \$9,000. If in-plant personnel are used to conduct tests, the costs will be somewhat less." SSEIS D-8.

146. *Cf. AFL-CIO v. Marshall*, 617 F.2d at 657-658 (D.C. Cir.1979) (OSHA might have improved quality of record with more extensive studies at different mills and over different periods of time, but OSH Act, although requiring best available evidence, does not require administration to incur these costs).







*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Office of General Counsel*

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BUTCH TONGATE  
Cabinet Secretary

J. C. BORREGO  
Deputy Secretary

September 14, 2018

*Via E-mail*

Small Business Regulatory Advisory Commission  
c/o Johanna Nelson  
New Mexico Economic Development Department  
1100 St. Francis Drive  
Santa Fe, New Mexico 87501

**Re: Proposed Repeal of Regulations 20.2.20 NMAC – *Lime Manufacturing Plants – Particulate Matter***

Dear Chairman and Members of the Small Business Regulatory Advisory Commission:

The New Mexico Environment Department ("Department") hereby provides notice to the Small Business Regulatory Advisory Commission, pursuant to NMSA 1978, Section 14-4A-1, *et. seq.* that the Department's Air Quality Bureau ("AQB") is proposing to repeal the regulation governing emissions of particulate matter at lime manufacturing plants and lime hydrators found at 20.2.20 NMAC ("Regulations").

This repeal is being done because there are other regulations in place that control such emissions. This repeal is expected to have no effect on small businesses in New Mexico. There are currently no lime manufacturing plants operating within the state, and while there is currently one permitted lime hydrator in Belen, the operation of this facility will be unaffected by the proposed repeal, as it will still be required to comply with its permitted emission limits.

The hearing before the Environmental Improvement Board will take place on November 30, 2018, in Santa Fe. If you have further questions, comments, or would like to meet and discuss this rule change, please feel free to contact me directly at (505) 222-9540 or at [andrew.knight@state.nm.us](mailto:andrew.knight@state.nm.us).

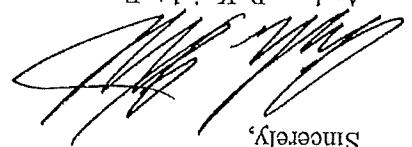
**EXHIBIT**

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Sincerely,

A handwritten signature in black ink, appearing to read "Andrew P. Knight, Esq.", written in a cursive style.

Andrew P. Knight, Esq.  
Assistant General Counsel