

Regulatory Analysis Form

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IRRC Number 2682

INDEPENDENT REGULATORY
REVIEW COMMISSION

(1) Agency
Environmental Protection

(2) I.D. Number (Governor's Office Use)

#7-419

(3) Short Title

Cement Kilns

(4) PA Code Cite
25 Pa. Code Chapters 121, 129
and 145

(5) Agency Contacts & Telephone Numbers

Primary Contact: Michele Tate, 783-8727

Secondary Contact: Kelly J. Heffner, 783-8727

(6) Type of Rulemaking (Check One)

- Proposed Rulemaking
 Final Order Adopting Regulation
 Final Order, Proposed Rulemaking Omitted

(7) Is a 120-Day Emergency Certification Attached?

- No
 Yes: By the Attorney General
 Yes: By the Governor

(8) Briefly explain the regulation in clear and non-technical language.

The proposed rulemaking revises existing NOx emission limits for cement kilns. The proposed rulemaking establishes allowable NOx emission limits based on the type of process for the following types of cement kilns:

1. Long wet-process cement kilns.
2. Long dry-process cement kilns.
3. Preheater and precalciner cement kilns.

In addition to demonstrating compliance with the allowable NOx emission limits on a kiln-by-kiln basis, the proposed revisions provide a number of compliance demonstration options including emissions averaging and use of Clean Air Interstate Rule (CAIR) NOx Ozone Season allowances.

The existing regulation containing NOx emission limits for cement kilns in Chapter 145 will remain in effect through April 30, 2009. The revised NOx emission limits contained in the proposed rulemaking will take effect May 1, 2009.

Adoption of NOx emission limits for cement kilns is part of the Commonwealth's strategy, in concert with other Ozone Transport Region (OTR) jurisdictions, to reduce transport of ozone to achieve and maintain the health-based 8-hour ozone national ambient air quality standard (NAAQS).

The proposed rulemaking, when adopted as a final-form regulation, will be submitted to the U.S. Environmental Protection Agency (EPA) as a revision to the State Implementation Plan.

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(9) State the statutory authority for the regulation and any relevant state or federal court decisions.

This proposed rulemaking is authorized under Section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Environmental Quality Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in the Commonwealth.

(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action.

No.

(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses?

Adoption of the proposed NO_x emission limits for cement kilns is part of the Commonwealth's strategy, in concert with other OTR jurisdictions, to reduce transport of ozone to achieve and maintain the health-based 8-hour ozone NAAQS. The proposed NO_x emission limits will improve public health and social well being by reducing emissions of NO_x, resulting in improvement in ozone and fine particulate concentrations and improvement in visibility. NO_x is a precursor to ozone, fine particulate and regional haze formation.

(12) State the public health, safety, environmental or general welfare risks associated with non-regulation.

The public will be exposed to higher levels of ozone of fine particulates and increased haze formation.

Pennsylvania participated in a multi-state collaboration through the Ozone Transport Commission (OTC) to identify cost-effective control measures for mobile, stationary and area sources to be considered by states in the OTR in the development of plans to address 8-hour ozone nonattainment. The measures recommended by the OTC are reasonably necessary to achieve and maintain the 8-hour ozone NAAQS in the OTR. The measures recommended by the OTC include reducing NO_x emissions from cement kilns in the OTR. The NO_x emission limits for cement kilns in the proposed rulemaking are those recommended by the OTC.

If the projected emission reductions from this proposed rulemaking are not obtained, Pennsylvania will have to obtain equivalent NO_x emission reductions from other, less cost-effective control measures.

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(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.)

The citizens of the Commonwealth are the major benefactors of these regulatory provisions. The public will benefit from improved air quality. This proposed rulemaking will reduce NOx emissions during the ozone season from cement kilns by approximately 1300 tons or 23% from 2005 levels.

Control installation and operation would create jobs and reduce air contaminants that have adverse environmental and health impacts.

(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.)

There are currently nine cement plants with 21 kilns in operation in the Commonwealth. The owners and operators of these facilities will be directly affected by the requirements. The revision of the NOx emission limits and other requirements for cement kilns will affect no other groups directly. Purchasers of cement may see slightly higher prices for the product, but because of market competition these cost increases are expected to be negligible.

(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.)

There are 9 cement plants in operation in Pennsylvania with a total of 21 kilns. All of the facilities are major sources, with owners or operators that are familiar with the Department's regulatory, monitoring and permitting program requirements. All of the owners or operators have a high level of technical capacity for implementing the program.

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(16) Describe the communications with and input from the public in the development and drafting of the regulation. List the persons and/or groups who were involved, if applicable.

The Department consulted with the Air Quality Technical Advisory Committee (AQTAC) on the proposed rulemaking on May 17, 2007, and July 26, 2007. On July 26, 2007, the AQTAC concurred with the Department's recommendation to present the rulemaking to the Environmental Quality Board for consideration as proposed rulemaking for publication and comment with the provision that comment be solicited on allowing owners and operators of a cement kiln to demonstrate compliance on an inter-company emissions averaging basis. The Department also consulted with the Citizens Advisory Council Air Committee on July 17, 2007.

There will also be opportunity for public input during the public comment period and three public hearings to be scheduled for this proposed rulemaking.

(17) Provide a specific estimate of the costs and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required.

Control technologies are readily available to achieve NO_x emission reductions of greater than 20% from cement kilns. These technologies include: conversion to indirect firing systems with low-NO_x burners with approximately 20-30% reduction; mid-kiln firing of whole tires in long kilns with approximately 20-40% reduction; staged combustion in precalciner kilns with approximately 30-45% reduction; selective noncatalytic reduction (SNCR) in precalciner kilns with approximately 30-70% reduction; and selective catalytic reduction (SCR) with approximately 80-90% reduction. SNCR has been used on preheater kilns and has been proposed for long kiln applications. All of these technologies, except SCR, are demonstrated on kilns in the United States.

The proposed regulation will include emissions averaging and use of CAIR NO_x Ozone Season allowances as near term compliance options. This will allow an owner or operator of an affected cement kiln to elect the least-cost compliance alternative, including emissions averaging or the use of CAIR NO_x Ozone Season allowances, to demonstrate compliance with the NO_x emission limits. Based on 2005 ozone season emissions, implementation of the proposed rule is estimated to result in a reduction of 1300 tons of NO_x. Based on a long-term average CAIR NO_x Ozone Season allowance price of \$1000, the cost of 1300 NO_x allowances would be \$1,300,000. Currently, however, CAIR NO_x Ozone Season allowance prices are in a significant downward trend, trading recently around \$500. The lower range of cost to the regulated industry of purchasing 1300 NO_x allowances would be approximately \$650,000.

The proposed regulation includes minor changes to existing administrative requirements. These changes are not expected to have a significant cost.

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(18) Provide a specific estimate of the costs and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required.

This proposed rulemaking does not apply to local governments. Therefore local governments should not be affected by this proposal.

(19) Provide a specific estimate of the costs and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required.

The proposed rulemaking is not expected to increase costs to the Commonwealth because it is a revision of existing emission limits for cement kilns. No new staff resources will be necessary to implement the final-form regulation.

(20) In the table below, provide an estimate of the fiscal savings and cost associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY (07/08)	FY +1 (08/09)	FY +2 (09/10)	FY +3 (10/11)	FY +4 (11/12)	FY +5 (12/13)
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Savings	0.00	0.00	0.00	0.00	0.00	0.00
COSTS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Costs	0.00	0.00	\$1,300,000	\$1,300,000	\$1,300,000	\$1,300,000
REVENUE LOSSES:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenue Losses	0.00	0.00	0.00	0.00	0.00	0.00

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(20a) Explain how the cost estimates listed above were derived.

Costs for the regulated community were derived from estimated costs of purchasing CAIR NOx Ozone Season allowances.

The compliance option of purchasing CAIR NOx Ozone Season allowances (at \$1000 per allowance) would cost the regulated industry approximately \$1.3 million per year (approximately 1300 excess tons NOx emissions removed * 1 CAIR NOx Ozone Season allowance).

(20b) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3 (2004/2005)	FY-2 (2005/2006)	FY-1 (2006/2007)	Current FY (2007/2008) (estimated)
Clean Air Fund – Major Emission Facilities (#20077)	\$ 24,533,000	\$ 24,290,000	\$ 26,218,000	\$ 24,434,000

(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and costs.

The NOx emission reductions that will result from the proposed regulation will result in exposure of Pennsylvania's citizens to reduced levels of ozone and fine particulates that may adversely affect public health.

(22) Describe the nonregulatory alternatives considered and the costs associated with those alternatives. Provide the reasons for their dismissal.

The proposed rulemaking is a regional strategy adopted by the Ozone Transport Commission (OTC) to reduce emissions of NOx. Nonregulatory alternative for cement kilns are not available. The owners and operators of cement kilns must comply with an existing regulatory NOx emission limit. This proposed rulemaking revises the existing allowable NOx emission limits.

(23) Describe alternative regulatory schemes considered and the costs associated with those schemes. Provide the reasons for their dismissal.

Pennsylvania participated in a multi-state collaboration through the OTC to identify cost-effective control measures for mobile, stationary and area sources to be considered by states in the OTR in the development of plans to address 8-hour ozone nonattainment. The measures recommended by the OTC are reasonably necessary to achieve and maintain the 8-hour ozone NAAQS in the OTR. The measures recommended by the OTC include reducing NOx emissions from cement kilns located in the OTR. The NOx emission limits for cement kilns in the proposed rulemaking are those recommended by the OTC.

The OTC process initially identified approximately 1000 control measures. These alternative control measures were evaluated and determined to be not as cost-effective as those recommended through the process. There are no other regulatory schemes available that will achieve the level of NOx emission reductions necessary from cement kilns.

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(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulation.

This proposed rulemaking is more stringent than federal standards because companion federal regulations do not exist for cement kilns. NO_x emissions are a precursor to the formation of ozone and fine particulates. The cement kilns in Pennsylvania emitted into the atmosphere 12,967 tons of NO_x in 2005. This proposed rulemaking is reasonably necessary to achieve and maintain the 8-hour ozone and fine particulate NAAQS.

(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states?

Pennsylvania participated in a multi-state collaboration through the OTC to identify cost-effective control measures for mobile, stationary and area sources to be considered by states in the OTR in the development of plans to address 8-hour ozone nonattainment. The measures recommended by the OTC are reasonably necessary to achieve and maintain the 8-hour ozone NAAQS in the OTR. The measures recommended by the OTC include reducing NO_x emissions from cement kilns located in the OTR. The NO_x emission limits for cement kilns in the proposed rulemaking are those recommended by the OTC. Regulations based on the OTC recommendations are being pursued by New York and Maryland. Maine has one cement kiln permitted to convert to a dry process. The new kiln will be subject to BACT. Therefore, it is not anticipated that this proposed rulemaking will place Pennsylvania units at a competitive disadvantage.

(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

Yes. The proposed rulemaking will establish new NO_x limits for cement kilns in Chapter 129 (relating to standards for sources). The existing NO_x limits in Chapter 145 (relating to interstate pollution transport reduction) will remain in effect until April 30, 2009. In addition, the proposal revises an existing term and definition in Chapter 121 (relating to general provisions) and adds new terms and definitions to Chapter 121.

(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available.

Three public hearings are recommended during the sixty-day comment period.

(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports, which will be required as a result of implementation, if available.

Yes. The proposed rulemaking will change current paperwork requirements. Compliance demonstration requires reporting the difference between actual and allowable NO_x emissions during the interval from May 1 through September 30 of each year from each cement kiln. Calculations and data used to show compliance will also be required to be reported. The serial number of each CAIR NO_x Ozone Season allowance surrendered and calculations used to determine the quantity of CAIR

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(28) (continued) NO_x Ozone Season allowances required to be surrendered must also be reported, if this compliance option is used.

(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

The proposed rulemaking would allow owners or operators of cement kilns to select from a variety of compliance alternatives including emissions averaging and purchase of Clean Air Interstate Rule (CAIR) Ozone Season NO_x allowances. These alternatives will allow operators to select the least-cost compliance option.

The addition of the NO_x emission limits and other requirements for cement kilns will affect no other groups directly. Purchasers of cement may see slightly higher prices for the product, but because of market competition these cost increases are expected to be negligible.

(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained?

The regulation will be effective on the date of publication as a final rulemaking in the *Pennsylvania Bulletin*. Compliance with the proposed revised NO_x emission limits will be required beginning May 1, 2009.

No special permits or licenses are required.

(31) Provide the schedule for continual review of the regulation.

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE
BUREAU

(Pursuant to Commonwealth Documents Law)

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INDEPENDENT REGULATORY
REVIEW COMMISSION

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Copy below is hereby approved as to form and legality.
Attorney General

By: Amy M. Elliott
(Deputy Attorney General)

MAR 19 2008

DATE OF APPROVAL

Check if applicable
Copy not approved. Objections attached.

Copy below is hereby certified to be true and
correct copy of a document issued, prescribed or
promulgated by:

DEPARTMENT OF ENVIRONMENTAL
PROTECTION
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-419

DATE OF ADOPTION February 19, 2008

BY: Kathleen A. McGinty

TITLE KATHLEEN A. MCGINTY
CHAIRPERSON

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality
Executive of Independent Agencies

BY: Andrew C. Clark

DATE OF APPROVAL
MAR 5 2008

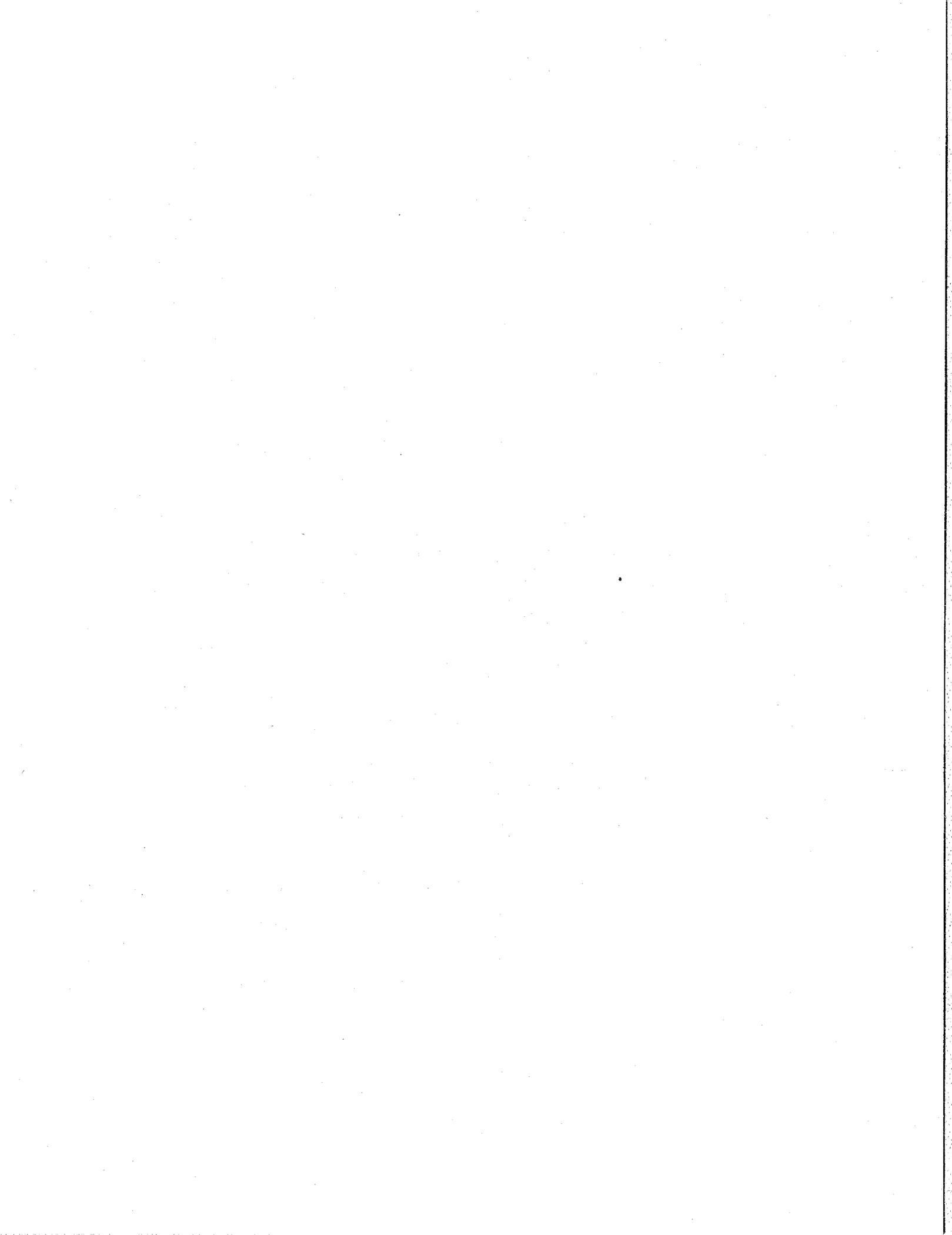
(Deputy General Counsel)
(~~Chief Counsel Independent Agency~~)
(~~Strike inapplicable title~~)

Check if applicable. No Attorney General Approval
or objection within 30 days after submission.

NOTICE OF PROPOSED RULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

Control of NOx Emissions from Cement Kilns
25 Pa. Code, Chapters 121, 129 and 145



Notice of Proposed Rulemaking
Department of Environmental Protection
Environmental Quality Board
25 Pa. Code Chapters 121, 129 and 145

The Environmental Quality Board (Board) proposes to amend 25 Pa. Code Chapters 121 (relating to definitions), 129 (relating to standards for sources) and 145 (relating interstate pollution transport reduction) as set forth in Annex A.

This notice is given under Board order at its meeting of February 19, 2008.

A. Effective Date

These amendments will be effective upon publication in the *Pennsylvania Bulletin* as final rulemaking.

These amendments will be submitted to the United States Environmental Protection Agency as a revision to the Pennsylvania State Implementation Plan upon final rulemaking.

B. Contact Persons

For further information, contact Jane Mahinske, Air Quality Program Specialist, Division of Air Resource Management, Bureau of Air Quality, 12th Floor, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, telephone: 717-787-9495 or Robert "Bo" Reiley, Assistant Counsel, Bureau of Regulatory Counsel, 9th floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, telephone: 717-787-7060.

Information regarding submitting comments on this proposal appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the DEP Web site (<http://www.depweb.state.pa.us>).

C. Statutory Authority

This action is being taken under the authority of section 5(a)(1) of the Air Pollution Control Act (35 P.S. §4005(a)(1)), which grants to the Board the authority to adopt regulations for the prevention, control, reduction and abatement of air pollution.

D. Background and Summary

When ground-level ozone is present in concentrations in excess of the Federal health-based standards, public health is adversely affected. The United States Environmental Protection Agency (EPA) has concluded that there is an association between ambient ozone concentrations and increased hospital admissions for respiratory ailments, such as asthma. Further, although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Though these symptoms

are often temporary, repeated exposure could result in permanent lung damage. The implementation of additional measures to address ozone air quality nonattainment in this Commonwealth is necessary to protect the public health.

The purpose of this proposed rulemaking is to reduce emissions of NO_x from cement kilns in order to reduce levels of ground-level ozone. Ground-level ozone is not directly emitted by pollution sources, but is created as a result of the chemical reaction of NO_x and volatile organic compounds (VOC) in the presence of light and heat. The reduction of NO_x emissions will also help protect the public health from high levels of fine particulates, of which NO_x is a precursor component. Fine particulates, as well as ozone, are health hazards. The reduction of NO_x emissions also reduces visibility impairment and acid deposition. This proposed rulemaking is reasonably necessary to achieve and maintain the ozone and PM_{2.5} national ambient air quality standards.

Pennsylvania, along with the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont and Virginia, and the District of Columbia, are members of the Ozone Transport Commission (OTC), which was created under Section 184 of the Federal Clean Air Act, 42 U.S.C. §7511c, to develop and implement regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. To date, states from the OTC, including Pennsylvania, have established a number of regulatory programs to reduce ozone precursor emissions, including programs related to portable fuel containers, architectural and industrial maintenance coatings and consumer products. Consistent with its strategy to achieve equitable ozone precursor emission reductions from all industrial sectors, Pennsylvania, along with other OTC states, has met with representatives of the cement industry to discuss reductions of NO_x emissions from their kilns.

In Pennsylvania there are 21 cement kilns, which in 2005 emitted 12,967 tons of NO_x emissions in this Commonwealth. Of these 21 kilns in Pennsylvania, 14 of them are "long" kilns. These are older technology kilns and are less energy efficient than pre-heater kilns and the newest technology, pre-calcliner kilns. The higher energy efficiency of the pre-heater and pre-calcliner kilns results in inherently lower NO_x emissions than those from long wet and dry kilns, per ton of product.

Control technologies are readily available to achieve NO_x emission reductions of greater than 20% from cement kilns. These technologies include: conversion to indirect firing systems with low-NO_x burners with approximately 20-30% reduction; mid-kiln firing of whole tires in long kilns with approximately 20-40% reduction; staged combustion in precalcliner kilns with approximately 30-45% reduction; selective noncatalytic reduction (SNCR) in precalcliner kilns with approximately 30-70% reduction; and selective catalytic reduction (SCR) with approximately 80-90% reduction. SNCR has been used on preheater kilns and has been proposed for long kiln applications. All of these technologies, except SCR, are demonstrated on kilns in the United States.

The proposed NO_x emission limits should allow a number of Pennsylvania's cement manufacturers to develop and implement compliance strategies without the need for widespread installation of control equipment on long kilns which will likely be replaced with more energy efficient technologies over time. However, an additional compliance option includes allowing

the purchase of Clean Air Interstate Rule (CAIR) NO_x Ozone Season Allowances to account for emissions in excess of the proposed limits, as a near term compliance option.

The Department of Environmental Protection (Department) worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of these proposed regulations. At its July 26, 2007, meeting, the AQTAC concurred with the Department's recommendation that the Board consider the adoption of these proposed regulations. However, the AQTAC would like to receive comment on the ability of owners and operators to demonstrate compliance on an inter-company emissions averaging basis. For instance, under the proposal, the owner or operator of a Portland cement kiln or multiple Portland cement kilns shall demonstrate compliance with the emission requirements specified in § 129.402 (relating to emission requirements) on a kiln-by-kiln basis, a facility-wide emissions averaging basis or a system-wide averaging basis among Portland cement kilns under the common control of the same owner or operator in this Commonwealth. The AQTAC recommends that the Board seek comment on whether averaging should be expanded to cement kilns that are not under the common control of the same owner or operator.

The Department also conferred with the Citizens Advisory Council (CAC) concerning the proposed rulemaking on July 17, 2007. The CAC concurred with the Department's recommendation that the Board consider the adoption of these proposed regulations. The CAC, however, raised concerns over allowing system-wide averaging as a means of compliance demonstration and specifically seeks public comment on this issue.

E. Summary of Regulatory Revisions

The proposed amendments add the following new definitions and terms to 25 Pa. Code § 121.1 (relating to definitions) used in the substantive provisions under §§ 129.401 – 129.405 (relating to emissions of NO_x from cement manufacturing): “Calcine,” “Clinker,” “Long dry-process cement kiln,” “Long wet-process cement kiln,” “Portland cement,” “Portland cement kiln,” “Precalciner cement kiln,” and “Preheater cement kiln.” In addition, the proposed amendments revise the following definition and term in § 121.1, “CEMS-Continuous emissions monitoring system.”

Proposed § 129.401 (relating to applicability) provides that beginning May 1, 2009, an owner or operator of a Portland cement kiln shall comply with the requirements in this section and §§ 129.402-129.405.

Proposed § 129.402 (relating to emission requirements) requires that the owner or operator of a Portland cement kiln determine allowable emissions of NO_x by multiplying the tons of clinker produced by the Portland cement kiln for the period from May 1 through September 30, 2009, and for each year thereafter by: 3.88 pounds of NO_x per ton of clinker produced for long wet-process cement kilns; 3.44 pounds of NO_x per ton of clinker produced for long dry-process cement kilns; and 2.36 pounds per ton of clinker produced for preheater cement kilns and for precalciner cement kilns.

Proposed § 129.403 (relating to compliance determination) requires, among other things, that not later than May 1, 2009, the owner or operator of a Portland cement kiln shall install,

operate and maintain CEMS for NOx emissions, and report CEMS emissions data to the Department in accordance with the CEMS requirements of Chapter 139, Subchapter C (relating to requirements for continuous in-stack monitoring for stationary sources).

Proposed § 129.404 (relating to compliance demonstration) provides, among other things, that by October 31, 2009, and of each year thereafter, the owner or operator of a Portland cement kiln shall report certain information to the Department, in a format reasonably prescribed by the Department. The owner or operator of a Portland cement kiln or multiple Portland cement kilns shall demonstrate compliance with the emission requirements specified in § 129.402 on a kiln-by-kiln basis, a facility-wide emissions averaging basis or a system-wide averaging basis among Portland cement kilns under the common control of the same owner or operator in this Commonwealth. Additionally, for the period from May 1 through September 30, 2009, and of each year thereafter, the owner or operator of a Portland cement kiln shall surrender to the Department one CAIR NOx Ozone Season allowance for each ton of NOx emissions by which the combined actual emissions exceed the allowable emissions of the Portland cement kiln subject to this section.

Proposed § 129.405 (relating to recordkeeping) provides that the owner or operator of a Portland cement kiln shall maintain an operating log for each Portland cement kiln that includes certain monthly information.

Under Chapter 145, Subchapter C (relating to emissions of NOx from cement manufacturing), it is proposed in § 145.141 (relating to applicability) that beginning May 1, 2009, an owner or operator of a Portland cement kiln would comply with §§ 129.401-129.405.

F. Benefits, Costs and Compliance

Benefits

Overall, the citizens of this Commonwealth will benefit from these proposed amendments because the amendments will result in improved air quality by reducing ozone precursor emissions and will encourage new technologies and practices, which will reduce emissions.

Compliance Costs

The proposed regulation will include emissions averaging and use of CAIR NOx Ozone Season allowances as near term compliance options. This will allow an owner or operator of an affected cement kiln to elect the least-cost compliance alternative, including emissions averaging or the use of CAIR NOx Ozone Season allowances to demonstrate compliance with the NOx emission limits. Based on 2005 ozone season emissions, implementation of the proposed rule is estimated to result in a reduction of 1300 tons of NOx emissions. Based on a long-term average CAIR NOx Ozone Season allowance price of \$1000, the cost of 1300 NOx allowances would be \$1,300,000. The proposed regulation includes minor changes to existing administrative requirements. These changes are not expected to have a significant cost.

Compliance Assistance Plan

The Department plans to educate and assist the public and regulated community in understanding the newly revised requirements and how to comply with them. This will be accomplished through the Department's ongoing Regional Compliance Assistance Program.

Paperwork Requirements

The proposed regulations will not significantly increase the paperwork that is already generated during the normal course of business operations.

G. Pollution Prevention

The Federal Pollution Prevention Act of 1990 established a national policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials, and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. This proposed regulation will provide the owners and operators of all cement kilns the opportunity to improve the energy efficiency at their operations, which will result in lower NOx emissions.

H. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

Under Section 5(a) of the Regulatory Review Act, 71 P.S. § 745.5(a), on April 7, 2008, the Department submitted a copy of these proposed amendments to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed regulations within 30 days of the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Act specifies detailed procedures for review of these issues by the Department, the General Assembly and the Governor prior to final publication of the regulations.

J. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by June 23, 2008. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by June 23, 2008. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

Electronic Comments - Comments may be submitted electronically to the Board at RegComments@state.pa.us and must also be received by the Board by June 23, 2008. A subject heading of the proposal and a return name and address must be included in each transmission.

K. Public Hearings

The Environmental Quality Board will hold three public hearings for the purpose of accepting comments on this proposal. The hearings will be held as follows:

May 19, 2008
10:00 a.m.

Department of Environmental Protection
Rachel Carson State Office Building
Room 105
400 Market Street
Harrisburg, PA 17105

May 21, 2008
10:00 a.m.

Department of Environmental Protection
Northeast Regional Office
Susquehanna Room – A, Second Floor
2 Public Square
Wilkes-Barre, PA 18711-1790

May 23, 2008
10:00 a.m.

Department of Environmental Protection
Southwest Regional Office
Waterfront A and B Conference Room
400 Waterfront Drive
Pittsburgh, PA 15222

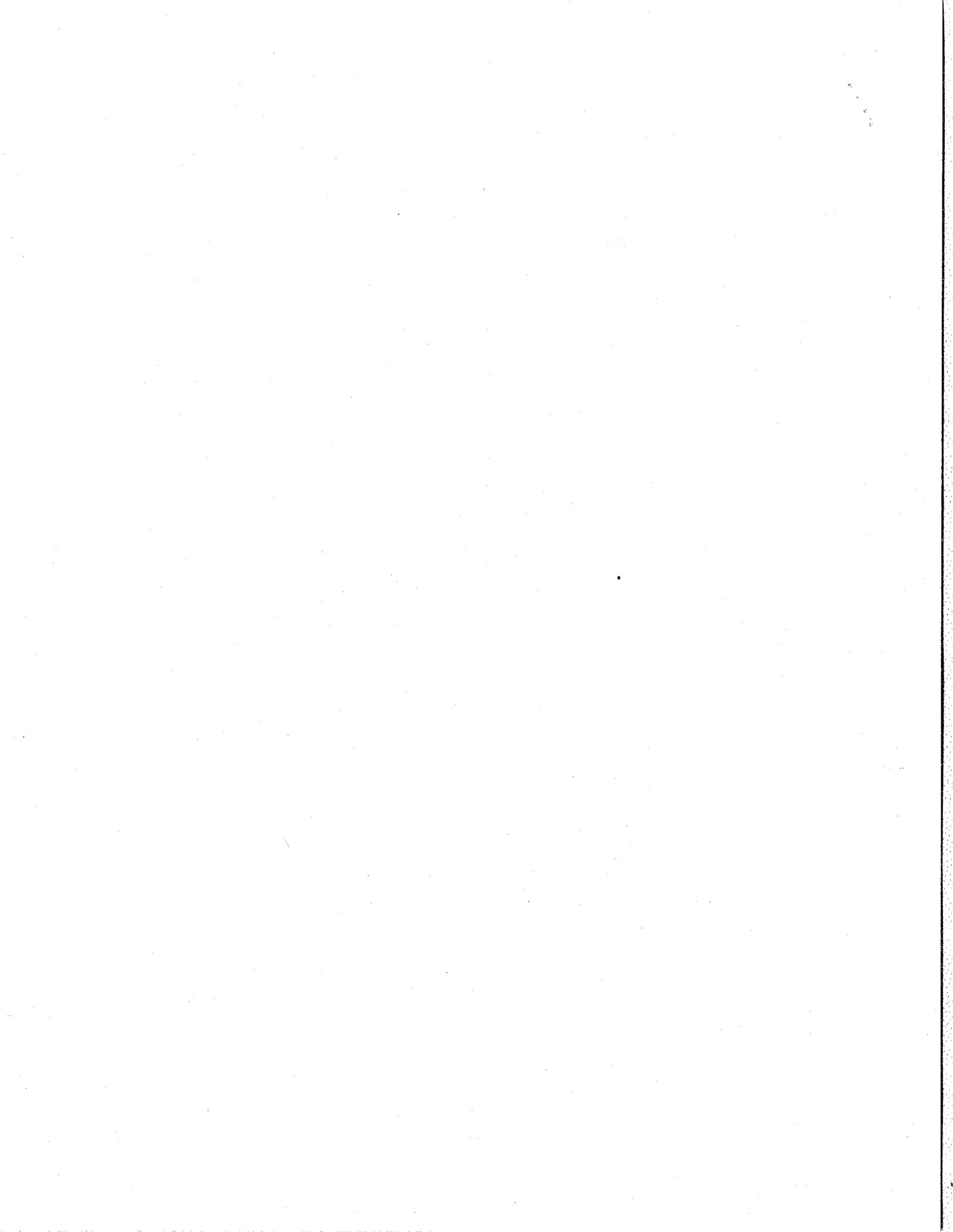
Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, 717-787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Environmental Quality Board at 717-787-4526 or through the

Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

BY:

KATHLEEN A. MCGINTY
Chairperson
Environmental Quality Board



Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

SUBPART C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

* * * * *

CEMS-Continuous emissions monitoring system—[For purposes of Chapter 127, Subchapter E, all of the equipment that may be required to meet the data acquisition and availability requirements of Chapter 127, Subchapter E to sample, condition, analyze and provide a record of emissions on a continuous basis.]All of the equipment required to meet applicable data acquisition and availability requirements in this article (relating to Air Resources) to sample, condition (if applicable), analyze, measure and provide a permanent record of emissions of air contaminants to the outdoor atmosphere, in accordance with the standards set forth by the Department under Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources).

* * * * *

Calcine—To heat a substance to a high temperature, but below its melting or fusing point, to bring about thermal decomposition or a phase transition in its physical or chemical constitution.

* * * * *

Clinker—The product of a Portland cement kiln from which finished cement is manufactured by milling and grinding.

* * * * *

Long dry-process cement kiln—A Portland cement kiln that employs no preheating of the feed. The inlet feed to the kiln is dry.

Long wet-process cement kiln—A Portland cement kiln that employs no preheating of the feed. The inlet feed to the kiln is a slurry.

* * * * *

Portland cement—A hydraulic cement produced by pulverizing clinker consisting essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an interground addition.

Portland cement kiln—A system, including solid, gaseous or liquid fuel combustion equipment, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

* * * * *

Precalciner cement kiln—A Portland cement kiln where the feed to the kiln system is preheated in cyclone chambers and a second burner is used to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln that forms clinker.

Preheater cement kiln—A Portland cement kiln where the feed to the kiln system is preheated in cyclone chambers prior to the final fusion in a kiln that forms clinker.

* * * * *

[Editor's note: Sections 129.401 – 129.405 are new and are printed in regular type to enhance readability.]

EMISSIONS OF NO_x FROM CEMENT MANUFACTURING

Sec.

- 129.401. Applicability.
- 129.402. Emission requirements.
- 129.403. Compliance determination.
- 129.404. Compliance demonstration.
- 129.405. Recordkeeping.

§ 129.401. Applicability.

Beginning May 1, 2009, an owner or operator of a Portland cement kiln shall comply with the requirements in this section and §§ 129.402-129.405.

§ 129.402. Emission requirements.

(a) During the period from May 1 through September 30, 2009, and for each year thereafter, the owner or operator of a Portland cement kiln shall not operate a Portland cement kiln in a manner that results in NO_x emissions in excess of the allowable limits established under subsection (b).

(b) The owner or operator of a Portland cement kiln shall determine allowable emissions of NO_x by multiplying the tons of clinker produced by the Portland cement kiln for the period from May 1 through September 30, 2009, and for each year thereafter by:

- (1) 3.88 pounds of NO_x per ton of clinker produced for long wet-process cement kilns.
- (2) 3.44 pounds of NO_x per ton of clinker produced for long dry-process cement kilns.
- (3) 2.36 pounds of NO_x per ton of clinker produced for:

(i) Preheater cement kilns.

(ii) Precalciner cement kilns.

§ 129.403. Compliance determination.

(a) Not later than May 1, 2009, the owner or operator of a Portland cement kiln shall:

(1) Install, operate and maintain CEMS for NO_x emissions.

(2) Report CEMS emissions data, in accordance with the CEMS requirements of Chapter 139, Subchapter C (relating to requirements for continuous in-stack monitoring for stationary sources), to the Department.

(3) Calculate actual emissions using the CEMS data reported to the Department.

(b) Data invalidated under Chapter 139, Subchapter C, shall be substituted with either of the following:

(1) Data calculated using the potential emission rate for the kiln.

(2) If approved by the Department, in writing, the highest valid one-hour emission value that occurred during the reporting quarter for an invalid data period during that quarter. If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department:

(i) The highest valid one-hour emission value that occurred during the most recent quarter for which valid data were collected.

(ii) If approved by the Department, in writing, the highest valid one-hour emission value that occurred during an alternative reporting period.

(c) The owner or operator of a Portland cement kiln subject to this section shall submit to the Department quarterly reports of CEMS monitoring data in pounds of NO_x emitted per hour, in a format approved by the Department, in writing, and in compliance with Chapter 139, Subchapter C.

(d) The CEMS for NO_x installed under the requirements of this section shall meet the minimum data availability requirements in Chapter 139, Subchapter C.

§ 129.404. Compliance demonstration.

(a) By October 31, 2009, and each year thereafter, the owner or operator of a Portland cement kiln shall report to the Department, in a format approved, in writing, by the Department:

(1) The difference between the actual NO_x emissions from the kiln during the interval from May 1 through September 30 and the allowable emissions for that period.

(2) The calculations used to determine the difference in emissions, including the CEMS data and clinker production data used to show compliance with the allowable emission limits in § 129.402 (relating to emission requirements). The clinker production data shall consist of the quantity of clinker, in tons, produced per day for each kiln.

(b) The owner or operator of a Portland cement kiln or multiple Portland cement kilns shall demonstrate compliance with the emission requirements in § 129.402 on either:

(1) A kiln-by-kiln basis.

(2) A facility-wide emissions averaging basis.

(3) A system-wide averaging basis among Portland cement kilns under the common control of the same owner or operator in this Commonwealth.

(c) The owner or operator of a Portland cement kiln may demonstrate compliance with the emission requirements of § 129.402 in accordance with the following:

(1) For the period from May 1 through September 30, 2009, and each year thereafter, the owner or operator of a Portland cement kiln shall surrender to the Department one CAIR NO_x Ozone Season allowance, as defined in § 145.202 (relating to definitions), for each ton of NO_x by which the combined actual emissions exceed the allowable emissions of the Portland cement kilns at a facility subject to this section.

(2) The surrendered CAIR NO_x Ozone Season allowances shall be of current year vintage.

(3) For purposes of determining the amount of allowances to surrender, any remaining fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton and any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

(d) If the combined allowable emissions from Portland cement kilns at a facility from May 1 through September 30 exceed the combined actual emissions from Portland cement kilns at the facility subject to this section and §§ 129.401-129.403 (relating to applicability; emission requirements; and compliance determination) and § 129.405 (relating to recordkeeping) during the same period, the owner or operator may deduct the difference or a portion of the difference from the amount of actual emissions from Portland cement kilns for that period at the owner or operator's other facilities located in this Commonwealth. The owner or operator of a kiln that commences operation after _____ (*Editor's Note: The blank refers to the date of adoption of this proposal*) may average only those emissions that are below the permitted NO_x limit for the kiln or below 1.52 pounds of NO_x per ton of clinker, whichever is lower.

(e) By November 1, 2009, and each year thereafter, an owner or operator of a Portland cement kiln subject to this section and §§ 129.401-129.403 and 129.405 shall surrender the required CAIR NO_x Ozone Season allowances to the Department's designated NATS-NO_x allowance tracking system account as defined in § 121.1 (relating to definitions) and shall provide to the Department, in writing, the following:

(1) The serial number of each CAIR NOx Ozone Season allowance surrendered.

(2) The calculations used to determine the quantity of CAIR NOx Ozone Season allowances required to be surrendered.

(f) If an owner or operator of a Portland cement kiln fails to comply with subsection (e), the owner or operator shall by December 31 surrender three CAIR NOx Ozone Season allowances of the current or later year vintage for each CAIR NOx Ozone Season allowance that was required to be surrendered by November 1 of that year.

(g) The surrender of CAIR NOx Ozone Season allowances under subsection (f) does not affect the liability of the owner or operator of the Portland cement kiln for any fine, penalty or assessment, or an obligation to comply with any other remedy for the same violation, under the CAA, or the act.

(1) For purposes of determining the number of days of violation, if a facility has excess emissions for the period May 1 through September 30, each day in that period (153 days) constitutes a day in violation unless the owner or operator of the Portland cement kiln demonstrates that a lesser number of days should be considered.

(2) Each ton of excess emissions is a separate violation.

§ 129.405. Recordkeeping.

(a) The owner or operator of a Portland cement kiln shall maintain an operating log for each Portland cement kiln. The operating log shall include the following on a monthly basis:

(1) The total hours of operation.

(2) The type and quantity of fuel used.

(3) The quantity of clinker produced.

(b) The records maintained by the owner or operator of a Portland cement kiln shall include the following:

(1) Source tests and operating parameters established during the initial source test and subsequent testing

(2) The date, time and duration of any start-up, shutdown or malfunction of a Portland cement kiln or emissions monitoring system.

(3) The date and type of maintenance, repairs or replacements performed on the kilns, control devices and emission monitoring systems.

(c) The owner or operator of a Portland cement kiln shall maintain the records required under this section onsite for a period of five years. The records shall be made available to the Department upon request.

CHAPTER 145: INTERSTATE POLLUTION TRANSPORT REDUCTION

Subchapter C. EMISSIONS OF NO_x FROM CEMENT MANUFACTURING

§ 145.141. Applicability.

Beginning May 1, 2005, until April 30, 2009, an owner or operator of a Portland cement kiln shall comply with this subchapter. Beginning May 1, 2009, an owner or operator of a Portland cement kiln shall comply with §§ 129.401-129.405.

* * * * *



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
April 7, 2008

Policy Office

717-783-8727

Kim Kaufman, Executive Director
Independent Regulatory Review Commission
14th Floor
333 Market Street
Harrisburg, PA 17101

Re: Proposed Rulemakings: Control of NO_x Emissions from Cement Kilns
(25 Pa Code, Chapters 129 and 145) (#7-419); and
Control of NO_x Emissions from Glass Melting Furnaces
(25 Pa Code, Chapter 129) (#7-420)

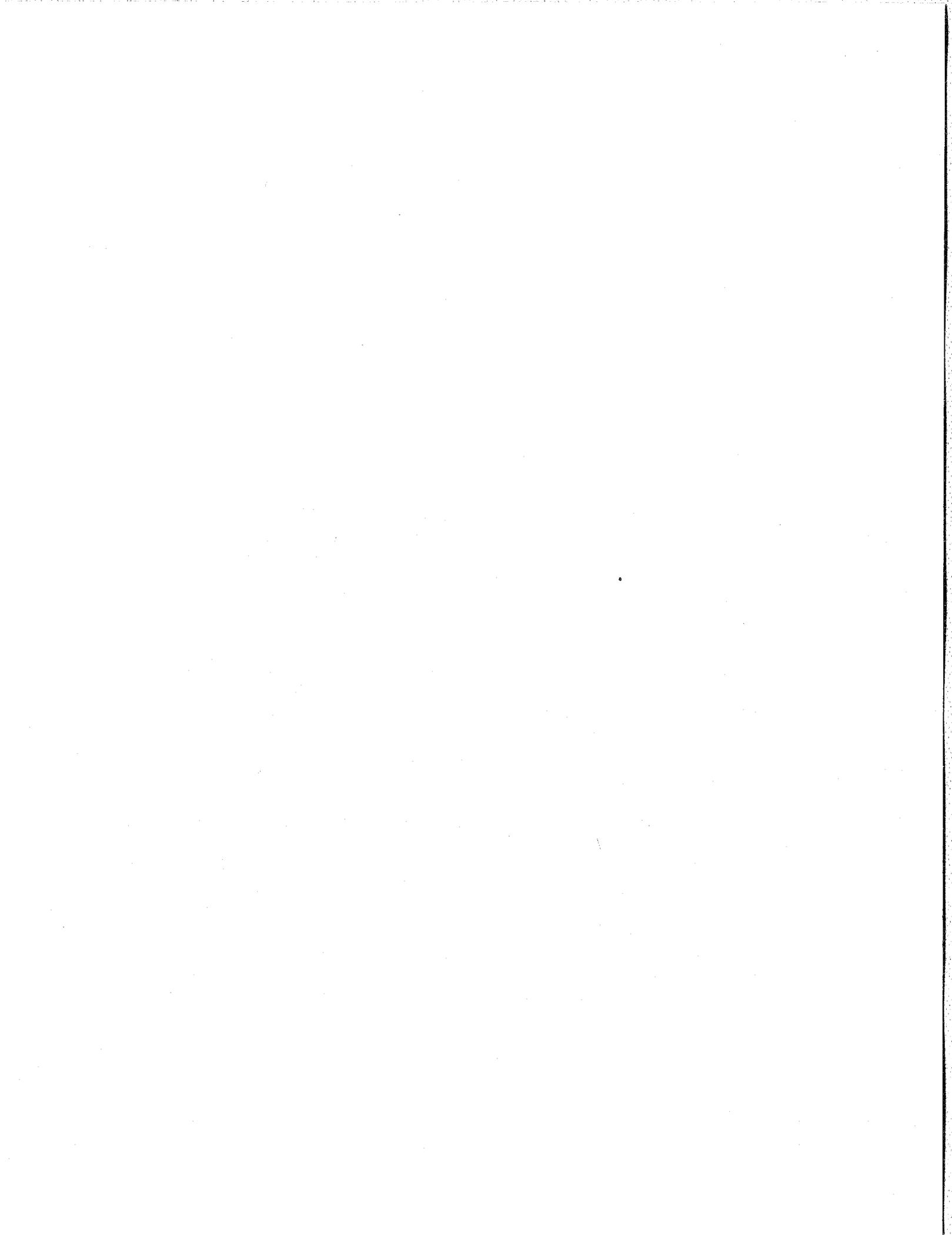
Dear Mr. Kaufman:

Enclosed are copies of two proposed rulemakings for review and comment by the Independent Regulatory Review Commission pursuant to Section 5(a) of the Regulatory Review Act. These proposed rulemakings are scheduled for publication in the *Pennsylvania Bulletin* on April 19, 2008, each with a 65-day public comment period that will conclude on June 23, 2008. Three public hearings for each proposal have been scheduled as indicated in the enclosed Preamble of each rulemaking. The Environmental Quality Board (EQB) adopted these proposals on February 19, 2008.

The Control of NO_x Emissions from Cement Kilns proposed rulemaking amends existing provisions in 25 Pa Code, Chapter 145 and establishes additional requirements in Chapter 129 for the control of NO_x emissions from Portland cement kilns during the ozone season (May 1 - September 30). In Pennsylvania, there are nine cement plants, with 21 cement kilns. These kilns are one of the largest industrial NO_x emission source categories, and account for approximately 29% of the more than 45,000 tons per year of NO_x emitted into the air from all nonelectric generating unit sources in the Commonwealth. This proposal will reduce NO_x emissions in the Commonwealth and will further align the Commonwealth in meeting its goal, in concert with other Ozone Transport Region jurisdictions, to reduce transport of ozone to achieve and maintain the health-based 8-hour ozone national ambient air quality standard (NAAQS).

The proposal establishes allowable NO_x emission limits based on the type of process for the following types of cement kilns: long wet-process cement kilns; long dry-process cement kilns; and preheater and precalciner cement kilns, and includes reporting, recordkeeping and monitoring requirements. Compliance with the prescribed requirements in the regulations can be demonstrated on a kiln-by-kiln basis, a facility-wide averaging basis or a system-wide averaging basis among Portland





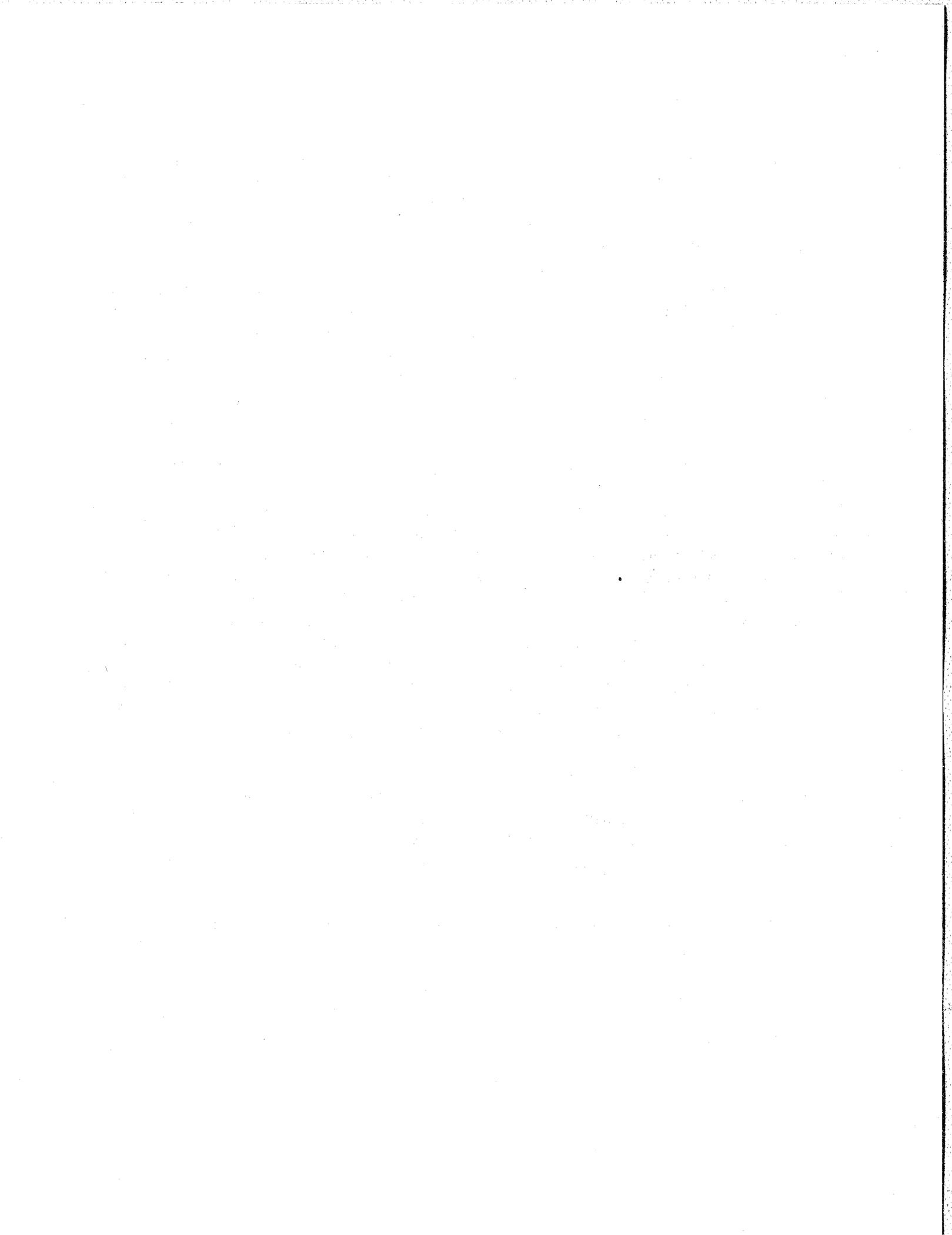
cement kilns under the common control of the same owner or operator in the Commonwealth. Use of CAIR NOx Ozone Season allowances is an additional compliance option provided in the proposed rulemaking. The existing regulations containing NOx emission limits for cement kilns in Chapter 145 will remain in effect through April 30, 2009. The revised NOx emission limits contained in the proposed rulemaking are to take effect May 1, 2009.

The proposed rulemaking was discussed with the Air Quality Technical Advisory Committee (AQTAC) on May 17, and July 27, 2007. On July 27, 2007, AQTAC concurred with the Department to proceed with the proposed rulemaking to the EQB; however, AQTAC recommended that the Board specifically solicit comments in the Preamble on allowing owners and operators of cement kilns to demonstrate compliance on an inter-company emissions averaging basis. The Department also consulted with the Citizens Advisory Council on July 17, 2007, who also advised the Department to seek public comments on the system-wide averaging provisions included in the rulemaking.

The proposed Control of NOx Emissions from Glass Melting Furnaces rulemaking establishes NOx emission control requirements, emission standards and emission limitations for glass melting furnaces during the ozone season (May 1 - September 30), and other requirements for the purpose of reducing NOx emissions from glass melting furnaces, effective May 1, 2009. The proposal is a part of the Commonwealth's strategy to reduce ozone transport to achieve and maintain the health-based 8-hour ozone national ambient air quality standard (NAAQS). Glass melting furnaces are one of the largest industrial NOx emission source categories in the Commonwealth and account for approximately 21% of the more than 45,000 tons per year of NOx emitted into the air from all nonelectric generating units in the Commonwealth. Under this rulemaking, the owners or operators of these facilities will be required to meet NOx emission limitation and emission standards and to comply with administrative requirements including emissions monitoring and reporting. Compliance options, including emissions averaging and the use of CAIR NOx Ozone Season allowances, are included in the rulemaking to provide owners and operators flexibility in meeting the proposed standards.

AQTAC reviewed the proposed rulemaking on July 26, 2007, and concurred with the Department's efforts to control NOx emissions from glass melting furnaces. AQTAC recommended that the Department present the proposal to the EQB for formal action. The Department also discussed the proposed rulemaking with the Citizens Advisory Council's Air Committee on July 17, 2007, who advised the Department to seek public comments on the system-wide averaging provisions included in the rulemaking.

The Department will provide the Commission with the assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Regulatory Review Act provides that the Commission may, within 30 days of the close of the comment period, convey to the agency its comments, recommendations and objections to the proposed regulation. The Department will consider any comments, recommendations or suggestions submitted by the Commission, as well as the Committees and public commentators, prior to final adoption of the regulation.



Kim Kaufman, Executive Director

- 3 -

April 7, 2008

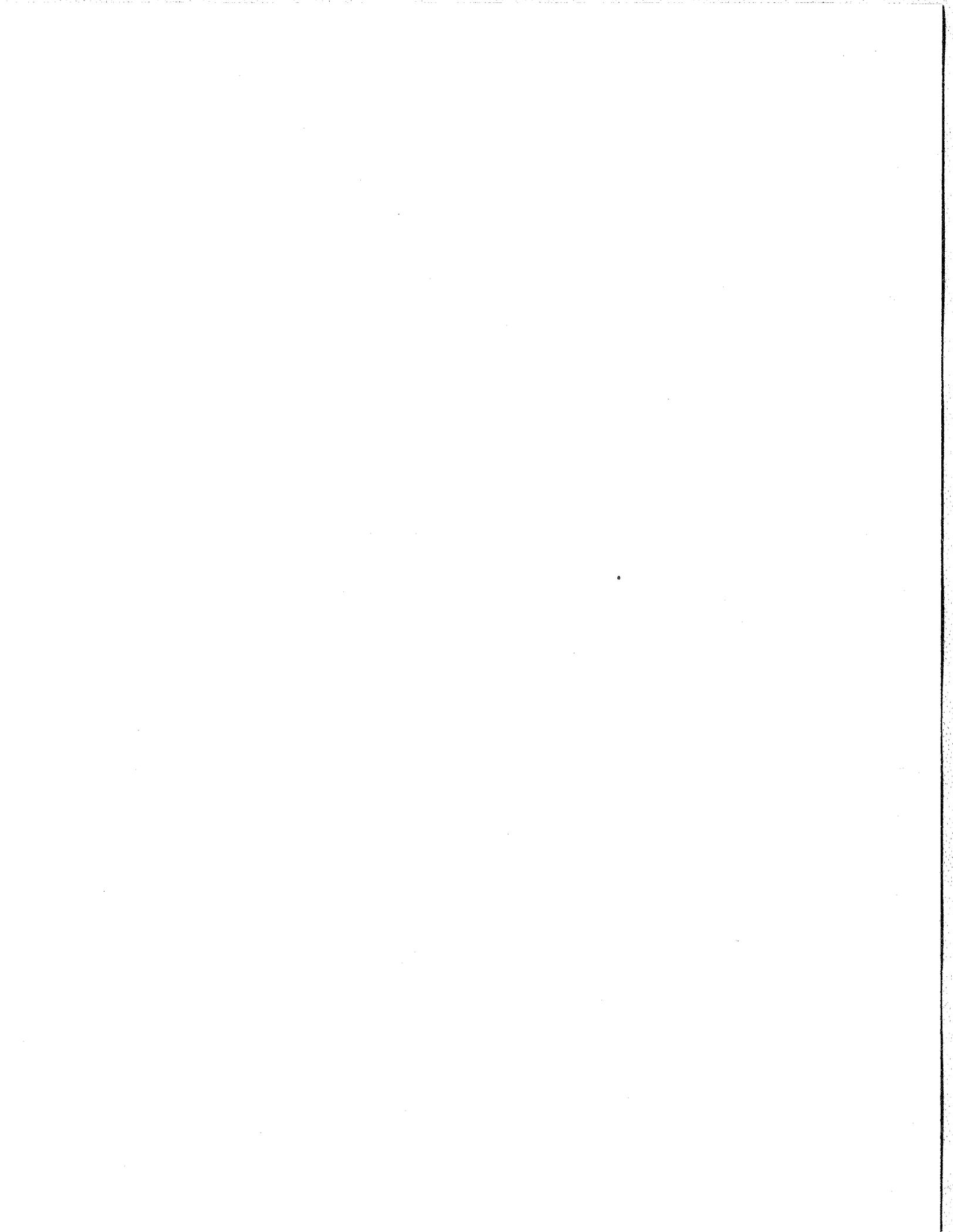
Please contact me at 717-783-8727 if you have any questions or need additional information.

Sincerely,

Michele L. Tate

Michele L. Tate
Regulatory Coordinator

Enclosures





**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO
THE REGULATORY REVIEW ACT**

I.D. NUMBER: 7-419

SUBJECT: Control Of NOx Emissions from Cement Kilns

AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

TYPE OF REGULATION

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
 - a. With Revisions
 - b. Without Revisions

RECEIVED
 2008 APR -7 PM 3:49
 INDEPENDENT REGULATORY
 REVIEW COMMISSION

FILING OF REGULATION

DATE	SIGNATURE	DESIGNATION
4-7-08		Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
4/7/08		Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
4-7-08 4-7-08		Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
4-7-08		Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
4-7-08		INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL (for Final Omitted only)
4/7/08		LEGISLATIVE REFERENCE BUREAU (for Proposed only)

