

PROPOSED RULEMAKING

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CHS. 121, 129 AND 145]

Small Sources of NO_x, Cement Kilns and Large Internal Combustion Engines

The Environmental Quality Board (Board) proposes to amend Chapters 121, 129 and 145 (relating to general provisions; standards for sources; and interstate pollution transport reduction). This proposed rulemaking establishes additional ozone season nitrogen oxide (NO_x) control requirements for certain boilers, turbines and stationary internal combustion units that are small sources of NO_x in the Counties of Bucks, Chester, Delaware, Montgomery and Philadelphia. The proposed rulemaking also establishes ozone season NO_x emission limits for large stationary internal combustion engines and Portland cement kilns across this Commonwealth.

This proposal was adopted by the Board at its meeting of September 17, 2002.

A. *Effective Date*

The proposed rulemaking will go into effect upon publication in the *Pennsylvania Bulletin* as a final-form rulemaking.

B. *Contact Persons*

For further information contact Dean E. Van Orden, Chief, Stationary Sources Section, Division of Air Resource Management, Bureau of Air Quality, P. O. Box 8468, Rachel Carson State Office Building, Harrisburg, PA 17105-8468, (717) 787-9495; or Kristen M. Campfield, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section I of this Preamble. Persons with a disability may use the AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available electronically through the Department of Environmental Protection's (Department) website (<http://www.dep.state.pa.us>), choose "participate."

C. *Statutory Authority*

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

D. *Background and Purpose*

When ground-level ozone is present in concentrations in excess of the Federal health-based standard, public health is adversely affected. The 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, so as 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 will also 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 also reduces visibility impairment and acid deposition. This proposed rulemaking is part of the Commonwealth's specific action plan and is necessary to achieve and maintain the ozone National Ambient Air Quality Standard in this Commonwealth and is part of a regional effort among the states in the Ozone Transport Region (OTR) to reduce transported ozone.

The proposed amendments to Chapters 121 and 129 establish ozone season (May 1 through September 30) emission limits for NO_x from certain boilers, turbines and stationary internal combustion engines located at industrial, utility and commercial sites in the Counties of Bucks, Chester, Delaware, Montgomery and Philadelphia. These counties are in a severe nonattainment area for ozone. Surrounding states in the same nonattainment area (Maryland, Delaware and New Jersey) are taking similar actions. The Board's proposed rulemaking requires the emission limits to be implemented by May 1, 2005. The proposed amendments to Chapters 121 and 129 do not affect large sources that are regulated under Chapter 145. The proposed rulemaking is based on model rules developed by the Ozone Transport Commission (OTC), which was created to address ozone problems in the OTR. The Commonwealth is a member of the OTC. The proposed rulemaking is also consistent with the recommendations of the Southeast Pennsylvania Ozone Stakeholders Working Group.

In 1998, the EPA published its requirement that 22 eastern states and the District of Columbia submit revised State Implementation Plans (SIP) (NO_x SIP Call) prohibiting those amounts of NO_x emissions that significantly contribute to ozone attainment problems in downwind states. In 2000, the Commonwealth promulgated Chapter 145, Subchapter A (relating to NO_x budget trading program), which contains the NO_x cap and trade program for fossil fuel-fired combustion units and electric generating units, to satisfy the first phase of the NO_x SIP Call. Subchapter A was published and adopted at 30 Pa.B. 4899 (September 30, 2000) and was approved by the EPA as a SIP revision on August 21, 2001 (66 FR 43795). In this proposed rulemaking, Chapter 145, Subchapters B and C (relating to emission of NO_x from stationary internal combustion engines; and emissions of NO_x from cement manufacturing) are needed to satisfy the Commonwealth's remaining obligation under the NO_x SIP Call.

Proposed Subchapters B and C establish ozone season emission limits for NO_x from large stationary internal combustion engines that emitted more than 153 tons of NO_x per ozone season in 1995 or any ozone season thereafter and from Portland cement kilns. Revisions pertaining to large stationary internal combustion engines and cement kilns were originally part of the 2000

proposal, but final action was deferred on them. The current proposed rulemaking reflects further revisions made in response to comments received on the previous proposal and is based on EPA proposed emission limits and control technologies published February 22, 2002 (67 FR 8396), and October 21, 1998 (63 FR 56394). The cement kiln provisions in the current proposal are similar to rules adopted by other states including West Virginia, Maryland and Illinois. Most states are expected to adopt similar provisions for cement kilns and large stationary internal combustion engines.

Subchapter B will impact owners and operators of an estimated 14 large stationary internal combustion engines owned by 4 companies and institutions. Subchapter C will impact the owners and operators of 21 cement kilns and will require 8 of them to install continuous emission monitors and report the data in accordance with existing monitoring regulations. Two cement kilns have shutdown or have announced a shutdown date. The remaining cement kilns currently operate Continuous Emission Monitoring Systems (CEMS).

The Board's proposed rulemaking also represents the Commonwealth's continuing commitment to do its fair share in reducing ozone transport both within this Commonwealth and throughout the northeast.

The Department worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of this proposed rulemaking. The Department presented an earlier draft of the Chapter 129 amendments to AQTAC at its January 17, 2002, meeting. In response to AQTAC's comments at the January meeting, the Department revised the proposal, which it presented to AQTAC at its May 2, 2002, meeting. At that meeting, AQTAC concurred with the Department's recommendation that the Board publish the proposed rulemaking. However, AQTAC specifically requested that the Board seek public comment on three issues concerning scope and flexibility. Those three issues are identified more fully in Section I of this Preamble.

E. Summary of Regulatory Requirements

The proposed amendments to Chapter 121 consist of definitions of four terms that will be used in the substantive provisions of this proposed rulemaking. The terms are "emergency stationary internal combustion engine," "fire-fighting stationary internal combustion engine," "ppmvd" and "stationary internal combustion engine."

The proposed amendments to Chapter 129 apply during the ozone season (May 1 to September 30) to small sources of NO_x located in Bucks, Chester, Delaware, Montgomery or Philadelphia County (the five county Philadelphia area). The proposed rulemaking establishes NO_x emission limits for boilers, stationary combustion turbines and stationary internal combustion engines in §§ 129.201—129.203 (relating to standards for boilers; standards for stationary combustion turbines; and standards for stationary internal combustion engines). These sections allow averaging of emissions to demonstrate compliance in certain circumstances. Some boilers and turbines may demonstrate compliance through the opt-in provisions of §§ 145.80—145.88 (relating to opt-in process). Emergency gas turbines and fire-fighting turbines, fire-fighting stationary internal combustion engines and emergency stationary internal combustion engines are exempt.

Proposed Chapter 145, Subchapter B establishes emission rates for four categories of large stationary internal combustion engines listed in § 145.111 (relating to appli-

cability). Section 145.112 (relating to definitions) defines terms that are used in Subchapter B: "CEMS—Continuous Emission Monitoring System," "diesel stationary internal combustion engine," "dual-fuel stationary internal combustion engine," "engine rating," "lean-burn stationary internal combustion engine," "rich-burn stationary internal combustion engine," "stoichiometric air/fuel ratio" and "unit." Section 145.113 (relating to standard requirements) establishes the emission rates.

This subchapter also establishes compliance reporting, monitoring and recordkeeping requirements in §§ 145.114 and 145.115 (relating to compliance determination; and reporting, monitoring and recordkeeping). Section 145.114 allows averaging of emissions to demonstrate compliance in certain circumstances.

Proposed Subchapter C applies to Portland cement kilns. See § 145.141 (relating to applicability). Section 145.142 (relating to definitions) defines the following terms for the purposes of this subchapter: "CEMS—Continuous Emission Monitoring System," "clinker," "low NO_x burner," "mid-kiln firing," "Portland cement" and "Portland cement kiln." Section 145.143 (relating to standard requirements) establishes acceptable control technologies and emission limitations. Section 145.144 (relating to reporting, monitoring and recordkeeping) establishes reporting, monitoring and recordkeeping requirements for these units.

This proposed rulemaking, if adopted as a final-form rulemaking, will be submitted to the EPA as an amendment to the SIP.

F. Benefits, Costs and Compliance

Executive Order 1996-1, "Regulatory Review and Promulgation," requires a cost/benefit analysis of the proposed rulemaking.

Benefits

Overall, the citizens of this Commonwealth will benefit from this proposed rulemaking because the changes will result in improved air quality by reducing ozone and fine particulate precursor emissions and encourage new technologies and practices, which will reduce emissions. The proposed rulemaking will also reduce visibility impairment and acid deposition. Financial savings resulting from the proposed rulemaking in terms of effects on mortality, hospital admissions, acute bronchitis, acute respiratory systems, worker productivity, crops and forests could exceed \$16 million per year, based on EPA estimates.

Compliance Costs

The boilers, turbines and stationary internal combustion engines subject to the proposed Chapter 129 amendments are expected to reduce NO_x emissions by approximately 3 tons per day in the Philadelphia area. The emission reduction can be achieved through installation of control equipment, combustion unit modification or fuel switching. Cost to reduce emissions for these sources has been estimated to be \$1,500 to \$3,500 per ton for boilers, \$3,000 per ton of NO_x for turbines and \$1,700 to \$4,400 per ton for stationary internal combustion engines. Under Chapter 145, large stationary internal combustion engines are expected to install control equipment to meet the emission reduction requirements. These controls are estimated to cost \$1,500 to \$2,000 per ton of NO_x reduced. Cement kilns are expected to achieve some emission reductions through improved fuel efficiency resulting in a potential cost savings. Eight kilns will need

to install continuous emission monitors at a cost of approximately \$60,000 to \$100,000 each.

Compliance Assistance Plan

The Department plans to educate and assist the regulated community and the public with understanding these new regulatory requirements through various means, including field inspector contacts, mailings and the Small Business Compliance Assistance Program.

Paperwork Requirements

Aside from electronic CEMS reports that will be required of the cement kiln owners or operators, the regulatory revisions will not increase the paperwork that is already generated during the normal course of business operations.

G. Sunset Review

The proposed rulemaking will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

H. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on October 8, 2002, the Department submitted a copy of the proposed rulemaking to the Independent Regulatory Review Commission (IRRC), and the Chairpersons of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed rulemaking, 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.

If IRRC has objections to any portion of the proposed rulemaking, it will notify the Department within 10 days following the close of the Committees' review period. The notification shall specify the regulatory review criteria which have not been met by that portion. The Regulatory Review Act specifies detailed procedures for review by the Department, the Governor, and the General Assembly before final-form publication of the rulemaking.

I. Public Comments

Written Comments—Interested persons are invited to submit comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th 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 December 26, 2002. 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 December 26, 2002. 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.

At the request of AQTAC, the Board is specifically requesting comments in three areas:

1. Section 129.201 allows an owner or operator of two or more affected boilers to demonstrate compliance with the emission levels required in that section by averaging emissions from the boilers, with written Department approval. Sections 129.202 and 129.203 allow the same for an owner or operator of two or more stationary combustion turbines or stationary internal combustion engines. The Board is requesting comment on whether

these sections should remain the same, allow more flexibility or allow less flexibility. Examples of flexibility include allowing owners and operators to average their NO_x emissions among other sources within the five county Philadelphia ozone nonattainment area or allowing sources to purchase and retire NO_x allowances issued under Chapter 145, Subchapter A of contemporaneous vintage from the five county area.

2. Affected sources are requested to submit detailed information concerning the technical feasibility of the proposed control requirements and potential cost to comply for the affected units in this Commonwealth.

3. The proposed revisions to Chapter 129 apply only within the five county Philadelphia area. The entire proposed rulemaking applies only during each year's ozone season (May 1 through September 30). The Board is requesting comment on whether the proposal should apply Statewide and for the entire year.

Electronic Comments—Comments may be submitted electronically to the Board at regcomments@state.pa.us and must also be received by the Board by December 26, 2002. A subject heading of the proposal and a return name and address must be included in each transmission. If an acknowledgement of electronic comments is not received by the sender within 2 working days, the comments should be retransmitted to ensure receipt.

J. Public Hearings

The Board will hold three public hearings for the purpose of accepting comments on the proposed rulemaking. The hearings will be held at 1 p.m. on the following dates:

November 18, 2002	Department of Environmental Protection Southcentral Regional Office Susquehanna River Conference Room A 909 Elmerton Avenue Harrisburg, PA
November 20, 2002	Department of Environmental Protection Southwest Regional Office Waterfront A Conference Room 500 Waterfront Drive Pittsburgh, PA
November 25, 2002	Department of Environmental Protection Southeast Regional Park Main Conference Room, Lee Park 555 North Lane Conshohocken, PA

Persons wishing to present testimony at a hearing are requested to contact Heather Dwilet, Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 10 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 Heather Dwilet at (717) 787-4526 or through the

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

DAVID E. HESS,
Chairperson

Fiscal Note: 7-378. No fiscal impact; (8) recommends adoption.

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.

The definitions in section 3 of the act (35 P. S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Emergency stationary internal combustion engine—

(i) A stationary internal combustion engine that operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by events beyond the control of the owner or operator.

(ii) A stationary reciprocating engine that provides power during instances of voltage reduction or curtailment from the electrical grid is not an emergency stationary internal combustion engine.

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Fire-fighting stationary internal combustion engine—A stationary internal combustion engine that is used solely to pump water for extinguishing fires.

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ppmvd—Parts per million dry volume.

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Stationary internal combustion engine—

(i) An internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be capable of being carried or moved from one location to another and remains at a single site at a building, structure, facility, or installation for more than 30 days.

(ii) An engine that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period.

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(Editor's Note: The following sections are new and are printed in regular type for ease of reading.)

CHAPTER 129. STANDARDS FOR SOURCES

ADDITIONAL NO_x REQUIREMENTS

§ 129.201. Standards for boilers.

(a) By May 1, 2005, the owner or operator of a boiler that meets the definition of a boiler in § 145.2 (relating

to definitions) located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall ensure that the boiler meets the lower of any NO_x emission limitation established in a permit issued under Chapter 127 (relating to permits) or the following NO_x emission limits:

(1) Boilers with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour shall meet the following NO_x emission standards from May 1 through September 30 of each year:

(i) Natural gas-fired boilers or boilers firing a noncommercial gaseous fuel may not emit NO_x in excess of 0.10 pounds NO_x per million Btu or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b) (relating to control of major sources of NO_x and VOCs). The NO_x emissions from the boiler after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(ii) Boilers firing solid or liquid fuel may not emit NO_x in excess of 0.20 pounds of NO_x per million Btu or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b). The NO_x emissions from the boiler after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(2) Boilers with a nameplate rated capacity of greater than 250 million Btu/hour that are not subject to §§ 145.1—145.7, 145.10—145.14, 145.30, 145.31, 145.40—145.43, 145.50—145.57, 145.60—145.62 and 145.70—145.76 shall meet the lower of any NO_x emission limitation established in a permit issued under Chapter 127 or 0.17 pounds NO_x per million Btu heat input from May 1 through September 30 of each year. A boiler may demonstrate compliance with this paragraph through the provisions of §§ 145.80—145.88 (relating to opt-in process).

(b) The owner or operator of two or more boilers identified in subsection (a) may propose in writing to the Department to demonstrate compliance with this section by averaging emissions from the affected sources. Averaging may not eliminate or modify an otherwise applicable regulatory or permit-based emission limitation. The owner or operator shall propose monitoring and averaging provisions sufficient to demonstrate compliance on a daily basis. The Department will approve the averaging proposal in writing.

§ 129.202. Standards for stationary combustion turbines.

(a) By May 1, 2005, the owner or operator of a stationary combustion turbine located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall ensure that the stationary combustion turbine meets the lower of any NO_x emission limitation established in a permit issued under Chapter 127 (relating to permits) or the following NO_x emission limits:

(1) Stationary combustion turbines with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour shall meet the following NO_x emission standards from May 1 through September 30 of each year:

(i) Combined cycle or regenerative cycle stationary combustion turbines shall emit no more than:

(A) 42 ppmvd of NO_x, corrected to 15% O₂, when firing natural gas or a noncommercial gaseous fuel or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b) (relating to control of major sources of NO_x and VOCs). The NO_x emissions from the turbine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(B) 65 ppmvd of NO_x, corrected to 15% O₂, when firing oil or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b). The NO_x emissions from the turbine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(ii) Simple cycle stationary combustion turbines shall emit no more than:

(A) 55 ppmvd of NO_x, corrected to 15% O₂, when firing natural gas or a noncommercial gaseous fuel or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b). The NO_x emissions from the turbine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(B) 75 ppmvd of NO_x, corrected to 15% O₂, when firing oil or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 60% from the actual 1990 NO_x emission rate as determined in § 129.91(b). The NO_x emissions from the turbine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(2) Stationary combustion turbines with a nameplate rated capacity of greater than 250 million Btu/hour that are not subject to §§ 145.1—145.7, 145.10—145.14, 145.30, 145.31, 145.40—145.43, 145.50—145.57, 145.60—145.62 and 145.70—145.76 shall meet the lower of any NO_x emission limit established in a permit issued under Chapter 127 or 0.17 lb NO_x per million Btu heat input from May 1 through September 30 of each year. A stationary combustion turbine may demonstrate compliance with this paragraph through the provisions of §§ 145.80—145.88 (relating to opt-in process).

(b) Emergency gas turbines and fire-fighting turbines, as those terms are defined in 40 CFR 60.331 (relating to definitions), are exempt from this section.

(c) The owner or operator of two or more stationary combustion turbines identified in subsection (a) may propose in writing to the Department to demonstrate compliance with this section by averaging emissions from the affected sources. Averaging may not eliminate or modify an otherwise applicable regulatory or permit-based emission limitation. The owner or operator shall propose monitoring and averaging provisions sufficient to demonstrate compliance on a daily basis. The Department will approve the averaging proposal in writing.

§ 129.203. Standards for stationary internal combustion engines.

(a) This section applies to stationary internal combustion engines rated at greater than 1,000 horsepower and

located in Bucks, Chester, Delaware, Montgomery or Philadelphia County, except for the following:

(1) Fire-fighting stationary internal combustion engines and emergency stationary internal combustion engines.

(2) Stationary internal combustion engines regulated under Chapter 145, Subchapter B (relating to emissions of NO_x from stationary internal combustion engines).

(b) By May 1, 2005, the owner or operator shall ensure that, during the period May 1 through September 30 of each year, the affected stationary internal combustion engines identified in subsection (a) meet the lower of any NO_x emission limitation established in a permit issued under Chapter 127 (relating to permits) or the following NO_x emission limits:

(1) For a spark-ignited engine, 1.5 grams of NO_x per brake horsepower-hour or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 80% from the actual 1990 NO_x emission rate as determined in § 129.91(b) (relating to control of major sources of NO_x and VOCs). The NO_x emissions from the stationary internal combustion engine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(2) For a compression ignition stationary internal combustion engine firing diesel fuel or a combination of diesel fuel and natural gas, 2.3 grams of NO_x per brake horsepower-hour or an alternate emission rate approved by the Department that achieves a NO_x emission reduction of 80% from the actual 1990 NO_x emission rate as determined in § 129.91(b). The NO_x emissions from the stationary internal combustion engine after implementation of the alternate standard may not exceed any NO_x emission limit contained in a permit issued under Chapter 127.

(c) The owner or operator of two or more stationary internal combustion engines identified in subsection (a) may propose in writing to the Department to demonstrate compliance with this section by averaging emissions from the affected sources. Averaging may not eliminate or modify any otherwise applicable regulatory or permit-based emission limitation. The owner or operator shall propose monitoring and averaging provisions sufficient to demonstrate compliance on a daily basis. The Department will approve the averaging proposal in writing.

CHAPTER 145. INTERSTATE POLLUTION TRANSPORT REDUCTION

Subchapter B. EMISSIONS OF NO_x FROM STATIONARY INTERNAL COMBUSTION ENGINES

Sec.

145.111. Applicability.

145.112. Definitions.

145.113. Standard requirements.

145.114. Compliance determination.

145.115. Reporting, monitoring and recordkeeping.

§ 145.111. Applicability.

(a) An owner or operator of a rich-burn stationary internal combustion engine with an engine rating equal to or greater than 2,400 brake horsepower that emitted greater than or equal to 153 tons of NO_x from May 1 through September 30 in 1995 or from May 1 through September 30 of any year thereafter shall comply with the applicable requirements of this subchapter.

(b) An owner or operator of a lean-burn stationary internal combustion engine with an engine rating equal to or greater than 2,400 brake horsepower that emitted

greater than or equal to 153 tons of NO_x from May 1 through September 30 in 1995 or from May 1 through September 30 of any year thereafter shall comply with the applicable requirements of this subchapter.

(c) An owner or operator of a diesel stationary internal combustion engine with an engine rating equal to or greater than 3,000 brake horsepower that emitted greater than or equal to 153 tons of NO_x from May 1 through September 30 in 1995 or from May 1 through September 30 of any year thereafter shall comply with the applicable requirements of this subchapter.

(d) An owner or operator of a dual-fuel stationary internal combustion engine with an engine rating equal to or greater than 4,400 brake horsepower that emitted greater than or equal to 153 tons of NO_x from May 1 through September 30 in 1995 or from May 1 through September 30 of any year thereafter shall comply with the applicable requirements of this subchapter.

§ 145.112. Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

CEMS—Continuous Emission Monitoring System—The equipment required under this subchapter and Chapter 139 (relating to sampling and testing) to sample, analyze, measure and provide, by readings taken at least every 15 minutes of the measured parameters, a permanent record of NO_x emissions.

Diesel stationary internal combustion engine—A compression-ignited two- or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.

Dual-fuel stationary internal combustion engine—A compression-ignited stationary internal combustion engine that is burning liquid fuel and gaseous fuel simultaneously.

Engine rating—The output of an engine as determined by the engine manufacturer and listed on the nameplate of the unit, regardless of any derating.

Lean-burn stationary internal combustion engine—Any two- or four-stroke spark-ignited engine that is not a rich-burn stationary internal combustion engine.

Rich-burn stationary internal combustion engine—A two- or four-stroke spark-ignited engine where the manufacturer's original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

Stoichiometric air/fuel ratio—The air/fuel ratio where all fuel and all oxygen in the air/fuel mixture will be consumed.

Unit—An engine subject to this subchapter.

§ 145.113. Standard requirements.

Beginning May 1, 2005, an owner or operator of a unit described in § 145.111 (relating to applicability) may not operate the unit from May 1 through September 30 of any year unless the owner or operator complies with the following requirements:

(1) An owner or operator of a unit identified in § 145.111(a), (c) or (d) shall demonstrate that emissions from the unit have been reduced by 90% from the 1990 emission rate as determined in § 129.91(b) (relating to control of major sources of NO_x and VOCs).

(2) An owner or operator of a unit identified in § 145.111(b) shall demonstrate that emissions from the unit have been reduced by 91% from the 1990 emission rate as determined in § 129.91(b).

§ 145.114. Compliance determination.

(a) An owner or operator of a unit subject to this subchapter shall determine compliance using a CEMS that meets the applicable requirements of Chapter 139 (relating to sampling and testing) unless an alternate monitoring technique is approved by the Department under § 145.115(b)(1)(ii) (relating to reporting, monitoring and recordkeeping).

(b) An owner or operator of two or more units subject to this subchapter may demonstrate compliance with this subchapter through an averaging demonstration approved in writing by the Department. Averaging may not eliminate or modify an otherwise applicable regulatory or permit-based emission limitation. The units demonstrating compliance through an averaging provision shall be monitored using a CEMS.

§ 145.115. Reporting, monitoring and recordkeeping.

(a) *Reporting requirements.* An owner or operator of a unit subject to this subchapter shall:

(1) By May 1, 2004, submit to the Department the identification number and type of each unit, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance.

(2) Submit a report documenting for that unit the total NO_x emissions from May 1 through September 30 of each year to the Department by October 31 of each year, beginning in 2005.

(b) *Monitoring requirements.*

(1) An owner or operator of a unit subject to this subchapter may not operate the unit unless it is equipped with one of the following:

(i) A CEMS that meets the applicable requirements of Chapter 139 (relating to sampling and testing).

(ii) An alternate calculation and recordkeeping procedure based upon actual annual emissions testing and correlations with operating parameters. The installation, implementation and use of the alternate calculation and recordkeeping procedure shall be approved by the Department in writing prior to implementation.

(2) The CEMS or approved alternate calculation and recordkeeping procedure shall be operated and maintained in accordance with an onsite CEMS operating plan approved by the Department.

(c) *Recordkeeping requirements.* An owner or operator of a unit subject to this subchapter shall maintain records necessary to demonstrate compliance for 5 consecutive calendar years at the facility at which the unit is located. The records shall be made available to the Department upon request.

Subchapter C. EMISSIONS OF NO_x FROM CEMENT MANUFACTURING

Sec.	
145.141.	Applicability.
145.142.	Definitions.
145.143.	Standard requirements.
145.144.	Reporting, monitoring and recordkeeping.

§ 145.141. Applicability.

This subchapter applies to Portland cement kilns located in this Commonwealth.

§ 145.142. Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

CEMS—Continuous Emission Monitoring System—The equipment required under this subchapter and Chapter 139 (relating to sampling and testing) to sample, analyze, measure and provide, by readings taken at least every 15 minutes of the measured parameters, a permanent record of NO_x emissions.

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

Low NO_x burner—Combustion equipment designed to reduce flame turbulence, delay fuel/air mixing and establish fuel-rich zones for initial combustion.

Mid-kiln firing—The secondary firing in kilns by injecting solid fuel at an intermediate point in the kiln using a specially designed feed injection mechanism for the purpose of decreasing NO_x emissions through burning part of the fuel at a lower temperature and creating reducing conditions at the solid waste injection point that may destroy some of the NO_x formed upstream in the kiln burning zone.

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

§ 145.143. Standard requirements.

Beginning May 1, 2005, an owner or operator of a Portland cement kiln subject to this subchapter may not operate the kiln during May 1 through September 30 unless one of the following has been installed and operates during May 1 to September 30:

- (1) Low NO_x burner.

- (2) Mid-kiln firing.

(3) An alternative control approved in writing by the Department that achieves at least a 30% reduction of NO_x from the actual 1990 emission rate as determined in § 129.91(b) (relating to control of major sources of NO_x and VOCs). The NO_x emissions from the Portland cement kiln after installation and operation of the alternate control may not exceed any NO_x emission limit contained in a permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources).

§ 145.144. Reporting, monitoring and recordkeeping.

(a) *Reporting requirements.* An owner or operator subject to § 145.143 (relating to standard requirements) shall:

- (1) By May 1, 2005, submit to the Department the identification number and type of each unit subject to this section, the name and address of the plant where the unit is located and the name and telephone number of the person responsible for demonstrating compliance with this subchapter.

- (2) Submit a report documenting for that unit the total NO_x emissions from May 1 through September 30 of each year to the Department by October 31 of each year, beginning in 2005.

- (3) Submit a report, by May 1, 2005, documenting the control equipment or NO_x reduction technique installed to demonstrate compliance with § 145.143.

(b) *Monitoring requirements.* A Portland cement kiln subject to this section shall install and operate a CEMS to demonstrate the continual effectiveness of the compliance option selected under § 145.143. The CEMS shall be installed, operated and certified in accordance with Chapter 139 (relating to sampling and testing) by May 1, 2005.

(c) *Recordkeeping requirements.* The owner or operator of the Portland cement kiln shall maintain the records and reports required by this subchapter for a minimum of 5 years. The records and reports shall be made available to the Department upon request.

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