

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CHS. 121 AND 129]

Control of NO_x Emissions from Glass Melting Furnaces

The Environmental Quality Board (Board) amends Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. This final-form rulemaking controls nitrogen oxide (NO_x) emissions from glass melting furnaces.

This order was adopted by the Board at its meeting of March 16, 2010.

A. *Effective Date*

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the Pennsylvania State Implementation Plan (SIP) upon publication.

B. *Contact Persons*

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C. *Statutory Authority*

This action is being taken under the authority of section 5(a)(1) of the Air Pollution Control Act (APCA) (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 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 activities that involve physical exertion. Though these symptoms are often temporary, repeated exposure could result in permanent lung damage. The implementation of additional measures to reduce exposure to elevated ozone concentrations in this Commonwealth is necessary to protect the public health and the environment. The EPA established

the 8-hour ozone National Ambient Air Quality Standard (NAAQS) at 0.08 parts per million (ppm) at 62 FR 38855, 38856 (July 18, 1997). On March 12, 2008, the EPA issued a more protective 8-hour ozone standard of 0.075 ppm that would require additional reductions of ozone precursor emissions in this Commonwealth. See 73 FR 16436 (March 27, 2008). However, the EPA has reconsidered the 2008 ozone NAAQS and published a proposed rulemaking at 75 FR 2938 (January 19, 2010) to set a more protective 8-hour primary standard at a lower level within the range of 0.060—0.070 ppm. The final revised ozone NAAQS is expected in August 2010.

In addition, the adoption and implementation of this final-form rulemaking also allows the Commonwealth to make progress in attaining and maintaining the fine particulate matter (PM_{2.5}) NAAQS, since NO_x is a PM_{2.5} precursor. See 73 FR 28321, 28325 (May 16, 2008). The health effects associated with exposure to PM_{2.5} are significant. Epidemiological studies have shown a significant correlation between elevated PM_{2.5} levels and premature mortality. Other important effects associated with PM_{2.5} exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems. Individuals particularly sensitive to PM_{2.5} exposure include older adults, people with heart and lung disease and children. At 74 FR 58688, 58758 (November 13, 2009), the EPA designated 6 areas including all or portions of 22 counties in this Commonwealth as nonattainment areas for the 2006 24-hour PM_{2.5} NAAQS.

The purpose of this final-form rulemaking is to reduce emissions of NO_x from glass melting furnaces to reduce levels of ground-level ozone and fine particulate. 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 in the presence of light and heat. The reduction of NO_x emissions will also help protect the public health and environment from high levels of PM_{2.5}, of which NO_x is a precursor component. The reduction of NO_x emissions also reduces visibility impairment and acid deposition. As a result, to the extent that it is more stringent than any corresponding Federal requirement, this final-form rulemaking is reasonably necessary to attain and maintain the NAAQS for both ozone and PM_{2.5}.

The glass industry in this Commonwealth produces a variety of products, including flat glass, container glass, fiberglass and pressed and blown glass. In 2002, flat glass production accounted for approximately 7,450 tons of NO_x emissions; container glass production accounted for approximately 1,800 tons of NO_x emissions; fiberglass production accounted for approximately 150 tons of NO_x emissions; and pressed and blown glass, including picture tube glass, accounted for approximately 2,500 tons of NO_x emissions. Total glass melting furnace NO_x emissions in 2002 were approximately 11,900 tons. Since 2002, a number of furnaces or facilities, or both, have discontinued operation or made process changes and total NO_x emissions during 2005 were approximately 9,814 tons. As a result, the glass industry in this Commonwealth remains one of the largest sources of NO_x emissions in this Commonwealth.

This Commonwealth, along with 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 Clean Air Act (CAA) (42 U.S.C.A. § 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 the Commonwealth, have established a number of regulatory programs to reduce ozone precursor emissions, including programs regarding 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, the Commonwealth, along with other OTC states, has met with representatives of the glass industry to discuss reductions of NOx emissions from glass melting furnaces. There is general agreement that the NOx emission regulatory limits for the glass industry developed by the San Joaquin Valley Air Pollution Control District (SJVAPCD) in California are appropriate NOx emission limits for glass melting operations located in this Commonwealth and the other OTC States. The SJVAPCD Rule was first adopted in 1994 and subsequently amended in 1998, 2002 and 2006; this amended regulation was used to develop the Commonwealth's regulations, which serve as the OTC model rule for glass melting furnaces. The Department reviewed, analyzed and concurred with the OTC's control measures summary document for glass melting furnaces with respect to the individual glass melting furnaces in this Commonwealth and determined that proposing a glass melting furnaces regulation based on the SJVAPCD Rule's mix of control options to meet specified emission limits was the appropriate implementation strategy for a rulemaking to control NOx emissions from this Commonwealth's glass melting furnaces.

As part of the proposed rulemaking, the Board proposed under § 129.309 (relating to compliance demonstration) that the owner or operator of a glass melting furnace may demonstrate compliance with the requirements of § 129.304 (relating to emission requirements) by surrendering Clean Air Interstate Rule (CAIR) NOx Ozone Season allowances for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces. In response to comments received during the official public comment period on the proposed rulemaking for glass melting furnaces, and following the Department's review of other related information, the Department prepared a draft final-form rulemaking for public comment. The draft final-form rulemaking contained significant changes in several areas and the Department believed that, while not legally required, further discussion and an additional comment period would serve the public interest. An Advance Notice of Final Rulemaking (ANFR) was published at 39 Pa.B. 5318 (September 12, 2009). The most significant change made in the draft final-form rulemaking concerned deletion of the NOx surrender compliance option which allowed for the purchase of CAIR NOx allowances. The EPA held discussions with the Department subsequent to the closing of the public comment period on June 23, 2008, regarding the proposed rulemaking's option to demonstrate compliance with the emission limits through the purchase of CAIR NOx allowances under the EPA's CAIR regulation. During these discussions, the EPA indicated to the Department that providing a compliance option to purchase CAIR NOx allowances in the final-form rulemaking would jeopardize the approval of the

Commonwealth's CAIR SIP revision, because glass melting furnaces are not specifically included in the EPA CAIR program as a source category. Therefore, the compliance option to purchase CAIR NOx allowances was deleted from the final-form rulemaking.

There are three additional significant changes to the final-form rulemaking:

(1) The provision requiring compliance with the emission limits during the ozone season from May-September has been deleted. The Department further revised the final-form rulemaking to require compliance with the NOx emission limits year-round because NOx is a precursor to the formation of PM2.5, which is monitored year-round. In addition, NOx is also a precursor to the formation of ozone and it is anticipated that the EPA will extend the ozone monitoring season in this Commonwealth to go from March 1 to October 31, each year, requiring monitoring for the 8-hour ozone NAAQS for a longer period each year. See 74 FR 34525, 34538 (July 16, 2009).

(2) The final-form rulemaking adds a NOx emission limit applicable to a glass melting furnace that produces a glass product that is other than flat, container, fiberglass, or pressed or blown.

(3) The final-form rulemaking provides a petition process for an alternative emission limitation to the owner or operator of a glass melting furnace that demonstrates it is economically or technologically infeasible to meet the NOx emission limitations specified in § 129.304(a). An alternative emission limitation approved by the Department must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency. Moreover, the petition process in the final-form rulemaking also allows an owner or operator to submit a petition for an alternative compliance schedule if compliance with the NOx emission limitations is not achieved by the January 1, 2012, compliance deadline specified in § 129.304(b).

The Department worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of this final-form rulemaking. At its November 18, 2009, meeting, the AQTAC recommended revisions to the final-form rulemaking and concurred with the Department's recommendation to advance the regulation to the Board for consideration as a final-form rulemaking. The AQTAC recommended that the Department evaluate the requirements for exemptions in § 129.303 (relating to exemptions), specify the role of local air pollution control agencies and re-evaluate the invalidated data substitution method. These revisions were considered and incorporated into the final-form rulemaking.

The Department also conferred with the Citizens Advisory Council (CAC) concerning the final-form rulemaking on December 15, 2009. The CAC concurred with the Department's recommendation to advance the regulation to the Board for consideration as a final-form rulemaking.

E. Summary of Final-Form Rulemaking and Changes from Proposed to Final-Form Rulemaking

Summary of Final-Form Rulemaking

The final-form rulemaking adds the following definitions and terms to § 121.1 (relating to definitions) used in the substantive provisions under §§ 129.301—129.310 (relating to control of NOx emissions from glass melting furnaces): "blown glass," "cold shutdown," "container glass," "fiberglass," "flat glass," "glass melting furnace,"

“idling,” “permitted production capacity,” “pressed glass,” “primary furnace combustion system,” “pull rate,” “shut-down” and “start-up.”

The following proposed definitions and terms were deleted between proposed and final-form rulemaking: “100% air-fuel fired,” “air-fuel firing,” “complete reconstruction,” “furnace battery,” “furnace rebuild,” “multiple furnaces,” “oxyfuel fired” and “oxygen-assisted combustion.”

Section 129.301 (relating to purpose) annually limits the emissions of NO_x from glass melting furnaces.

Section 129.302 (relating to applicability) specifies that the regulation applies to an owner or operator of a glass melting furnace that emits or has the potential to emit NO_x at a rate greater than 50 tons per year.

Section 129.303 (relating to exemptions) provides, among other things, that the emission requirements in § 129.304 do not apply during periods of start-up, shutdown or idling as defined in § 121.1 if the owner or operator complies with the requirements of §§ 129.305—129.307 (relating to start-up requirements; shutdown requirements; and idling requirements). Owners and operators claiming the exemption shall notify the Department or approved local air pollution control agency within 24 hours after initiation of the operation for which the exemption is claimed. Additionally, the owner or operator of a glass melting furnace granted an exemption under § 129.303 shall maintain operating records or documentation, or both, necessary to support the claim for the exemption.

Section 129.304 provides that the owner or operator of a glass melting furnace shall determine allowable NO_x emissions by multiplying the tons of glass pulled by each furnace by: 4.0 pounds of NO_x per ton (lbs NO_x/ton) of glass pulled for container glass furnaces; 7.0 lbs NO_x/ton of glass pulled for pressed or blown glass furnaces; 4.0 lbs NO_x/ton of glass pulled for fiberglass furnaces; 7.0 lbs NO_x/ton of glass pulled for flat glass furnaces; and 6.0 lbs NO_x/ton of glass pulled for all other glass melting furnaces. The owner or operator of a glass melting furnace shall comply with the allowable NO_x emissions by January 1, 2012, unless a petition for an alternative emission limitation or compliance schedule is submitted, in writing, to the Department or approved local air pollution control agency by January 1, 2012, and subsequently approved, in writing, by the Department or approved local air pollution control agency.

The final-form rulemaking provides a petition process for an alternative NO_x emission limitation to the owner or operator of a glass melting furnace that demonstrates to the Department’s satisfaction that it is economically or technologically infeasible to meet the established emission limitations in § 129.304. An alternative NO_x emission limitation approved by the Department must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency. Moreover, this final-form rulemaking also includes a petition process for an alternative compliance schedule if an owner or operator of a glass melting furnace demonstrates that compliance cannot be achieved by the January 1, 2012, compliance date specified in § 129.304(b).

Section 129.305 (relating to start-up requirements) requires the owner or operator to submit specific information requested by the Department or approved local air pollution control agency to assure proper operation of the furnace. The owner or operator of a glass melting furnace may submit a request for a start-up exemption in con-

junction with the plan approval application, if required. The length of the start-up exemption may not exceed a finite number of days depending on the type of furnace. The Department or approved local air pollution control agency may approve start-up exemptions to the extent that the request identifies, among other things, the control technologies or strategies to be used. Additionally, the owner or operator shall place the emission control system in operation as soon as technologically feasible during start-up to minimize emissions.

Section 129.306 (relating to shutdown requirements) provides, among other things, that the duration of a glass melting furnace shutdown, as measured from the time the furnace operations drop below 25% of the permitted production capacity or fuel use capacity to when all emissions from the furnace cease, shall not exceed 20 days.

Section 129.307 (relating to idling requirements) provides, among other things, that the owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible during idling to minimize emissions.

Section 129.308 (relating to compliance determination) provides, among other things, that no later than 14 days prior to the applicable date under § 129.304, the owner or operator of a glass melting furnace subject to this section and §§ 129.301—129.307 and 129.309 and § 129.310 (relating to recordkeeping) shall install, operate and maintain continuous emissions monitoring systems (CEMS) (as defined in § 121.1) for NO_x and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), and calculate actual emissions using the CEMS data reported to the Department or approved local air pollution control agency. However, the owner or operator of a glass melting furnace may elect to install and operate an alternate NO_x emissions monitoring system or method approved, in writing, by the Department or approved local air pollution control agency. Data invalidated under Chapter 139, Subchapter C shall be substituted with other values if approved, in writing, by the Department or approved local air pollution control agency.

Section 129.309 provides that the owner or operator of a glass melting furnace shall calculate and report to the Department or approved local air pollution control agency on a quarterly basis no later than 30 days after the end of the quarter the CEMS data and glass production data used to show compliance with the allowable NO_x emission limitations. The glass production data must consist of the quantity of glass in tons pulled per day for each furnace. Compliance can be demonstrated on a furnace-by-furnace basis; facility-wide emissions averaging basis; or a system-wide emissions averaging basis among glass melting furnaces under common control of the same owner or operator in this Commonwealth. The owner or operator for which the Department has granted approval to voluntarily opt into a market-based program may not demonstrate compliance on an emissions averaging basis. Moreover, an emission reduction obtained by emission averaging to demonstrate compliance with the emission requirements will not be considered surplus for emission reduction purposes.

Section 129.310 (relating to recordkeeping) provides that the owner or operator of a glass melting furnace subject to the requirements of this section and §§ 129.301—129.309 shall maintain certain records to demonstrate compliance.

Changes from Proposed to Final-Form Rulemaking

In addition to the revisions for definitions previously discussed in this section, changes from the proposed rulemaking to final-form rulemaking are summarized as follows.

In § 129.302, the metric “20 pounds per hour” and the May 1, 2009, applicability date were deleted from the final-form regulation. The phrase “appropriate approved local air pollution control agency” was added to this section.

Changes to § 129.303 between proposed and final-form rulemakings include, among other things, the deletion of the exemption regarding glass melting furnaces heated by an electric current from electrodes submerged in molten glass. The final-form regulation includes a requirement that owners and operators of glass melting furnaces claiming an exemption shall notify the Department or appropriate approved local air pollution control agency within 24 hours after the initiation of the operation for which the exemption is claimed. As part of the notification requirements, the owner or operator shall identify the emission control system operating during the exemption period. Finally, the phrase “appropriate approved local air pollution control agency” was also added to subsections (b)–(d).

Changes to § 129.304, among other things, include the requirement that the owner or operator of a glass melting furnace may not operate a glass melting furnace that results in NOx emissions in excess of the allowable emissions established therein or the NOx emission limits contained in the plan approval or operating permit, whichever is lower. This section has also been revised to allow the owners and operators of glass melting furnaces to submit a petition for an alternative emission limitation or compliance schedule, if the owners or operators are unable to meet the allowable NOx emission limits. In addition, the final-form rulemaking sets forth the information necessary to be included in a petition that will be considered by the Department or appropriate approved local air pollution control agency as it relates to an alternative NOx emission limitation or compliance schedule. However, the alternative compliance schedule for a cold shutdown which occurs after the effective date of this final-form rulemaking may not be extended beyond 180 days from the start-up of the furnace after the cold shutdown, unless approved, in writing, by the Department. Lastly, an exemption from the NOx emission limits is provided under certain conditions during routine maintenance or repair of certain components of the glass melting furnace.

Final-form changes to § 129.305 include, among other things, start-up exemption periods for all other glass melting furnaces not otherwise covered under the proposed rulemaking. The final-form regulation also includes maximum start-up exemption periods for certain glass melting furnaces that employ NOx control systems not in common use or not readily available from a commercial supplier. Section 129.305 also includes language that allows, in addition to the Department, an approved local air pollution control agency to be notified and to make certain determinations related to start-up requirements.

Changes to §§ 129.306 and 129.307 authorize an approved local air pollution control agency, in addition to the Department, to determine when the operation of an emission control system is technologically feasible.

In § 129.308, the final-form regulation allows the highest valid 1-hour emission values to be substituted if data

is invalidated under Chapter 139, Subchapter C. An approved local air pollution control agency may also make compliance determinations under this section.

Changes to § 129.309 between proposed and final-form rulemaking include the deletion of language regarding the use and surrender of CAIR NOx ozone season allowances.

In § 129.310, the owner or operator claiming that a glass melting furnace is exempt from the requirements of §§ 129.301–129.309 based on the furnace’s potential to emit shall maintain records that clearly demonstrate to the Department or appropriate approved local air pollution control agency that the furnace is not subject to those regulatory requirements.

*F. Summary of Comments and Responses on the Proposed Rulemaking**Comments and Responses on the Proposed Rulemaking*

A commentator supports and strongly urges the adoption of the NOx emission limits for fiberglass plants consistent with the 4.0 lbs NOx/ton of glass pulled adopted by the OTC. The Board appreciates the commentator’s support of the proposed rulemaking for fiberglass plants.

A commentator stated that the emission limit for fiberglass plants in the proposed rulemaking can be achieved by currently available technologies and the emission limit is a technologically feasible and pragmatic approach requiring implementation of low-NOx combustion technology. The Board agrees with the commentator that the emission limit for fiberglass furnaces can be achieved with technologies currently available.

The commentator stated that it is an arbitrary and capricious action to base the regulations proposed NOx emission limits on a California rule without an explanation as to why they are appropriate to this Commonwealth. The Board disagrees with the commentator. The Board proposed the allowable NOx emission requirements as a result of the research conducted by and the recommendations of the Northeast OTC. The Northeast OTC is a multistate organization created under section 184 of the CAA. The OTC is responsible for advising the EPA on ground-level ozone pollution transport issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. The members of the OTC are required to demonstrate attainment with the 1997 8-hour ozone standard of 80 parts per billion (ppb). See 62 FR 38855.

Additionally, on March 12, 2008, the EPA issued a more protective 8-hour ozone standard of 75 ppb that would require additional reductions of ozone precursor emissions. See 73 FR 16436. The 2008 revised standard requires additional reductions of emissions of ozone precursors, including NOx, that impact each member’s nonattainment status. As required by the CAA, the Commonwealth submitted recommendations to the EPA in 2009 to designate 29 counties as nonattainment for the 2008 8-hour ozone NAAQS. The EPA was expected to take final action on the designation recommendations by March 2010. However, the EPA reconsidered the 2008 ozone NAAQS and published a proposed rulemaking at 75 FR 2938 to set a more protective 8-hour primary standard at a lower level within the range of 0.060–0.070 ppm; the final revised ozone standard is expected in August 2010. If, as is widely expected, the EPA tightens the ozone standard, the additional NOx emissions from the final-form rulemaking for glass melting furnaces will be even more important than if the current 2008 ozone

standard remains in place. In addition, Northeast states are conducting attainment planning work to support development of PM_{2.5} and regional haze SIPs to satisfy obligations under the CAA and regulations issued under the CAA. See 74 FR 58688 and 64 FR 35713 (July 1, 1999). NO_x emissions are precursors to the development of PM_{2.5} and regional haze.

The OTC undertook a study to identify a suite of additional control measures that could be used by the members in attaining their goals. Workgroups of staff from within the OTC members were established to evaluate control measures for specific sectors or issues. Department staff actively participated in these workgroups. Based on a review of 1,000 candidate control measures, the workgroups developed a short list of measures to be considered for more detailed analysis. The technical information for this short list of measures is found in the OTC report *Identification and Evaluation of Candidate Control Measures, Final Technical Support Document*, prepared by MACTEC Federal Programs, Inc., Herndon, VA, February 28, 2007. Control of NO_x emissions from glass melting furnaces in the six states within the Ozone Transport Region (OTR) that have glass melting furnaces (this Commonwealth, Maryland, Massachusetts, New Jersey, New York and Rhode Island) was on the short list as a measure for further analysis by the workgroups. The workgroups reviewed information on current NO_x emissions from the furnaces, controls already in place on the furnaces, anticipated additional NO_x emissions reductions from the control measures, preliminary cost and cost-effectiveness data, and other implementation issues. The workgroups discussed all the candidate control measures, including controlling NO_x emissions from glass melting furnaces, during a series of conference calls and workshops to further refine the emission reduction estimates, the cost data and implementation issues.

The workgroups also discussed comments from stakeholders, including glass melting furnace stakeholders (North American Insulation Manufacturers Association and Glass Association of North America). The OTC Commissioners summarized the glass melting furnace control measures and made a recommendation at the Commissioners' meetings in 2006 that the affected member states consider NO_x emission reductions from glass melting furnaces. The glass melting furnace stakeholders were provided multiple opportunities to review and comment on the glass melting furnace control measures summary. Public meetings were held as an opportunity for stakeholders to review and respond to the Commissioners' recommendations, stakeholders provided written comments, and the workgroups conducted conference calls with specific stakeholders to allow the stakeholders to vocalize their concerns directly to state regulatory staff and to discuss the control options. The OTC staff and state workgroups carefully considered the verbal and written comments received during this process.

The OTC's control measures summary recommends that states may allow the owners or operators of glass melting furnaces to propose compliance methods based on California's SJVAPCD Rule 4354 (relating to glass melting furnaces) which allows a "mix of control options to meet specified emission limits." The NO_x emission rates recommended in the OTC control measures summary document are the rates specified in SJVAPCD Rule 4354. The Department reviewed, analyzed and concurred with the OTC's control measures summary document for glass melting furnaces with respect to the individual glass melting furnaces in this Commonwealth, and determined that proposing a glass melting furnaces regulation based

on SJVAPCD Rule 4354 mix of control options to meet specified emission limits was the appropriate implementation strategy for a rulemaking to control NO_x emissions from this Commonwealth's glass melting furnaces.

The Commonwealth, along with the other affected OTC member states, agreed to establish NO_x emission limits and controls for glass melting furnaces that are based on SJVAPCD Rule 4354 so that there would be a level playing field among the OTC states. The owners and operators of glass melting furnaces in this Commonwealth remain competitive with those states not in the OTC with the option of an alternative compliance schedule contained in the petition process that is provided in § 129.304(b) and (c).

The commentator questioned whether imposing the proposed emission requirements in the absence of a Federal deadline will place this Commonwealth's industry at a competitive disadvantage, and suggests the Board should review the situation carefully in conjunction with the OTC to take precautions to insure a level playing field in the industry. The Board proposed the allowable emission requirements as a result of the research conducted by and the recommendations of the OTC. In addition, the Commonwealth also conducted its own independent research and verified the OTC recommendation. Control of NO_x emissions from glass melting furnaces in the six states within the OTR that have glass melting furnaces (this Commonwealth, Maryland, Massachusetts, New Jersey, New York and Rhode Island) was identified by the OTC as a control measure for further analysis. Moreover, the owners and operators of glass melting furnaces in this Commonwealth remain competitive with those states not in the OTC with the option of an alternative compliance schedule contained in the petition process that is provided in § 129.304(b) and (c).

The commentator stated that the proposed rulemaking does not include emission requirements for specialty glass manufacturing, and therefore the proposed rulemaking does not apply to their glass melting furnace since it does not meet the applicability criteria defined in the proposed rulemaking. The Board recognizes this and as a result, this final-form rulemaking also includes a petition process for an alternative compliance schedule if the owner or operator of a glass melting furnace demonstrates that compliance will not be achieved by the January 1, 2012, compliance date specified in § 129.304(b).

The proposed rulemaking's compliance determination section should express NO_x in the same units as in the emission requirements section of the proposed rulemaking (lbs/hr vs. lbs NO_x/ton glass). The Board disagrees with the commentator. The CEMS' equipment is not designed to sample and report a source's process-derived emissions data, for example, tons of glass pulled at a glass melting furnace. The CEMS equipment samples a "parts per million" emissions concentration, and then automatically calculates a "pounds per hour" emissions concentration. When the monitoring data is submitted to the Department every quarter, as required under § 129.309(a), the submittal shall include the CEMS monitored data in pounds per hour and the glass production data in tons of glass pulled per day for each furnace.

The commentator stated that the emission requirements compliance date of May 1, 2009, is unreasonable because there is less than 1 year until this deadline and the proposed rulemaking was not yet final and may not be final before the end of 2008. The Board acknowledges that the proposed rulemaking's compliance date of May 1,

2009, is impractical. Therefore, the final-form rulemaking requires compliance with the NO_x emission limits by January 1, 2012.

The commentator stated that this regulation will likely require permitting of air pollution control equipment which reasonably cannot occur by May 1, 2009, and suggests that the regulation's compliance deadline become effective upon the next furnace rebuild, but no sooner than May 1, 2012. The Board agrees with the commentator that the proposed rulemaking's compliance date of May 1, 2009, is impractical. The final-form rulemaking requires compliance with the emission limits by January 1, 2012.

The Independent Regulatory Review Commission (IRRC) commented that the Board should review the practicality of the 2009 compliance deadline, given the uncertainty of the future of the EPA's CAIR allowance program and questioned if other compliance options will be available for providing flexibility to the affected industry. The Board agrees with the commentator. Subsequent to the closing of the public comment period on June 23, 2008, the Department held discussions with the EPA regarding the proposed rulemaking's option to demonstrate compliance with the emission limits through the purchase of CAIR NO_x allowances under the EPA's CAIR regulation. The EPA indicated to the Department that the glass melting furnace regulation that would provide a compliance option to purchase CAIR NO_x allowances would be problematic as far as approvability by the EPA for the Commonwealth's SIP, because glass melting furnaces are not specifically included in the EPA's CAIR program as a source category able to purchase CAIR NO_x allowances to achieve compliance. Therefore, the Board removed from the final-form rulemaking the compliance option to purchase CAIR NO_x allowances.

The House and Senate Environmental Resources and Energy Committees (Committees) commented that it may assist the Department as well as the regulated industry to not base the compliance time frame on a specific date. The Committees commented that glass melting furnaces could potentially be required by the regulation to be replaced or upgraded prior to the end of their normal life expectancy, which would greatly increase the compliance costs of the regulation, if the regulation contains a specific compliance date. The Committees further commented that they understand several other states permit furnaces to be upgraded after their normal and anticipated life expectancy is exhausted. The Board has modified the final-form rulemaking to provide for a petition process to all glass melting furnace owners and operators under § 129.304(b) for an alternative compliance schedule if they will be unable to meet the emission limits beginning January 1, 2012. The Board believes that a final compliance date specified in the regulation is necessary to ensure that the owners and operators of the glass melting furnaces in this Commonwealth limit the NO_x emissions from their furnaces by a date certain, either by January 1, 2012, or by the date specified on a case-by-case basis as determined through the petition process for an alternative compliance schedule under § 129.304(c). Additionally, the SJVAPCD Rule whose NO_x emission limits and compliance methods were recommended by the OTC control measures group specifies a final compliance date.

A commentator stated that the proposed rulemaking limits the purchase of allowances to CAIR NO_x allowances and should allow for the use of NO_x credits previously banked as a result of prior emission reduc-

tions. The Board disagrees with the commentator. The use of NO_x credits previously banked due to prior emission reductions is clarified in the Department's NO_x Budget Trading Program under § 145.90(a) (relating to emission reduction credit provisions): "ERCs may not be used to satisfy NO_x allowance requirements." Further, as previously explained, the final-form regulation no longer provides the compliance option to purchase CAIR NO_x allowances.

A commentator stated that the Board did not adequately address, while drafting and promulgating the proposed rulemaking and in accordance with Executive Order 1996-1, "Regulatory Review and Promulgation," that when there are existing Federal regulations covering the subject matter as does the EPA's CAIR regulation, that a state's regulations cannot be more stringent than the Federal standards. The commentator stated further that the EPA promulgated CAIR for the control of NO_x emissions at the Federal level and the EPA focused the CAIR regulation on electric generating units (EGU). Glass melting furnaces are not EGUs, thus under the EPA's CAIR, specific regulation of glass manufacturing is notably absent. The purpose of the Department's rulemaking is to address reductions of NO_x from glass melting furnaces, while the EPA's CAIR addresses NO_x reductions from EGUs, certain boilers, stationary combustion turbines and stationary internal combustion engines. Therefore, these are two different regulatory strategies with the goal of reducing NO_x emissions from various source types within this Commonwealth. The EPA did not intend CAIR to comprise the entire solution to control NO_x emissions from all types of sources, but only to address interstate transport of ozone and PM_{2.5} precursors from the EGU sector. In fact, this Commonwealth and other OTC members have determined that additional NO_x reductions may be necessary in some areas, in combination with reduction of interstate transport, to attain and maintain the NAAQS. Executive Order 1996-1 applies to the final-form rulemaking since there is not a companion Federal rule that reduces NO_x emissions from glass melting furnaces. However, this final-form rulemaking is reasonably necessary to attain and maintain the 8-hour ozone and PM_{2.5} NAAQS. The criteria for adopting state regulations more stringent than Federal regulations (when Federal regulations exist) are in section 4.2 of the APCA, (35 P. S. § 4004.2). Section 4.2 of the APCA authorizes the Board to adopt regulations more stringent than Federal requirements when the control measures are reasonably necessary to attain and maintain the ambient air quality standards.

The Senate Committee commented on the ability of the Board to move forward with the regulation if the United States Court of Appeals for the District of Columbia (D.C. Circuit Court) vacated the CAIR budget and allowance system for NO_x emissions in this Commonwealth and other states. Their concern is that on July 11, 2008, the D.C. Circuit Court overturned CAIR and specifically that the D.C. Circuit Court found that the state NO_x budgets as determined by the EPA were "arbitrary and capricious." The decision by the D.C. Circuit Court in *North Carolina v. EPA* only addressed CAIR, and did not address NO_x emission limits for glass melting furnaces.

IRRC questioned the Board's statutory authority for the use of CAIR NO_x allowances and revised NO_x emission limits in the proposed regulation due to the fact that the EPA's CAIR was vacated on July 11, 2008, by the D.C. Circuit Court. IRRC goes on to say that the D.C. Circuit Court in its ruling stated that the analysis done by the EPA was "fundamentally flawed" and that the EPA must

start its analysis anew. The Board disagrees with this analysis. The decision by the D.C. Circuit Court in *North Carolina v. EPA* only addressed CAIR, and did not address NOx emission limits for glass melting furnaces. The D.C. Circuit Court decided to remand, not vacate, the EPA's CAIR in December 2008. The final Federal rule, expected in 2011, must be revised to be consistent with the D.C. Circuit Court's July 11, 2008, decision in *State of North Carolina v. Environmental Protection Agency*, 531 F.3d 896 (2008). The Board agrees that while the EPA's CAIR remains in place at this time, the EPA will propose and finalize a replacement for CAIR that meets the criteria set forth by the court. In light of the SIP-approvability issues raised by the EPA, the compliance option to purchase and surrender CAIR NOx allowances was deleted from the final-form regulation.

IRRC stated that the Board should address the concerns raised by the Senate Committee on the CAIR vacatur, and suggested that if the regulation requires substantial changes, to consider submitting an ANFR or publishing the changes as a new proposed rulemaking in the *Pennsylvania Bulletin*. The Department agrees with the commentator. The provisions of the final-form rulemaking contain significant changes from the proposed rulemaking. Most importantly, during discussions with the EPA following the close of the Board's public comment period for the proposed rulemaking, the EPA indicated to the Department that a final glass melting furnace regulation that provides a compliance option to purchase CAIR NOx allowances would be problematic as far as approvability by the EPA for the Commonwealth's SIP, because glass melting furnaces are not specifically included in the EPA's CAIR program as a source category able to purchase allowances to achieve compliance. The EPA did not intend CAIR to comprise the entire solution to control NOx emissions from all types of sources, but only to address interstate transport of ozone and PM2.5 precursors from the EGU sector. Therefore, the Board removed from the final-form rulemaking the compliance option to purchase CAIR NOx allowances. The Board further revised the final-form rulemaking to require compliance with the NOx emission limits year-round because NOx is not only a precursor to ozone formation, but is also a precursor to the formation of PM2.5, which is monitored year-round. In addition, the proposed rulemaking addressed control of NOx emissions from glass melting furnaces only during the period of May 1 to September 30 of each year, and it is anticipated that the EPA will extend the ozone monitoring season in this Commonwealth to go from March 1 to October 31, each year, requiring monitoring for the 8-hour ozone NAAQS for a longer period each year. See 74 FR 34525, 34538. The Board also added a NOx emission limit applicable to a glass melting furnace that produces a glass product that is other than flat, container, fiberglass or pressed and blown. These changes are sufficiently significant that the Board believed further discussion and an additional comment period served the public interest. An ANFR to solicit comments from the public on the draft final-form rulemaking was published at 39 Pa.B. 5318.

The Senate Committee commented that they support the concept of NOx allowance trading, and would favor removing the requirement for being "under common control of the same owner or operator in this Commonwealth" from the system-wide averaging section of the rulemaking and IRRC commented that the Board should address this issue. The Board disagrees. Allowing multiple owners and operators of glass melting furnaces in this Commonwealth to average their emissions in concert

with each other to demonstrate compliance would essentially provide them the larger framework of an emissions trading program, which is beyond the scope of the final-form rulemaking provision to provide them with an emissions averaging option.

One commentator stated that the proposed rulemaking's requirement to install a NOx emissions monitoring system (CEMS or an alternate) does not impose a time requirement upon the Department for the review and approval of the monitoring system. The Board disagrees with the commentator that the regulation should contain a time requirement. The time frame to review and approve a monitoring system is coordinated with each individual company during the certification process of the monitoring system, in accordance with the Department's *Continuous Source Monitoring Manual* (DEP 274-0300-001). These monitoring-specific issues are not part of individual rulemakings.

Some commentators stated that the deadline of May 1, 2009, for the system to be installed and operational is unreasonable as there is less than 1 year until this deadline, and that it does not provide adequate time allowed for installation and operation of the CEMS. The commentators suggest there should be a longer time frame for the system to be installed and operational, and suggest that May 1, 2010, should be the earliest implementation date for the CEMS. The Board agrees with the commentators. A CEMS or alternate monitoring system or method to determine compliance with the emission limits specified in § 129.304(a) in the final-form rulemaking must be installed, operating and maintained no later than 14 days prior to the applicable date by which a glass melting furnace is required to meet the emission limits specified in § 129.304(b) or (c) in the final-form rulemaking.

A commentator stated that "to be consistent with the requirements of the CAIR, CEMS installation should be reserved for furnaces undergoing reconstruction or modification and not simple rebricking." The Board disagrees with the commentator. The EPA's CAIR requirements are not applicable to this final-form rulemaking. In addition, a CEMS or alternate monitoring system or method to determine compliance with the emission limits specified in § 129.304(a) in the final-form rulemaking must be installed, operating and maintained no later than 14 days prior to the date by which a glass melting furnace is required to meet the emission limits specified in § 129.304(b) or (c) in the final-form rulemaking.

One commentator stated that the "alternate NOx emissions monitoring system or method" referenced in the proposed rulemaking should be further clarified to explain what is an allowable alternate system. The Board disagrees with the commentator. An alternate NOx emissions system or method is not designed to be a prescribed method or system.

A commentator stated that the start-up exemption time of 104 days for a flat glass furnace is too short, and suggests an additional 208 days be allowed for a flat glass furnace that uses a NOx control not readily available from a commercial supplier, not in common use, or that is innovative. The Board agrees with the commentator with respect to the start-up exemption time of 104 days for a flat glass furnace. To be consistent with SJVAPCD Rule 4354, on whose NOx emission limits the OTC based its recommendations to its member states with glass melting furnaces, the final-form rulemaking revised the length of the start-up exemption in § 129.305(d) for all types of glass furnaces. For flat glass furnaces, the maximum

start-up exemption time is 208 days if the NOx control system is not in common use or is not readily available from a commercial supplier.

The commentator stated that the “not to exceed 5% excess oxygen” restriction during a furnace combustion start-up should be eliminated, as it does not appear to have a relationship or a benefit to NOx emissions. The Board retains in the final-form rulemaking the furnace start-up restriction under § 129.305(f) of “not to exceed 5% excess oxygen,” which is consistent with the furnace start-up requirements in SJVAPCD Rule 4354.

The Committees commented to the Board on behalf of one commentator that the start-up exemption unnecessarily restricts the exemption to a new furnace or furnace rebuild and does not account for an idled existing furnace, and implies that a plan approval would be required in connection with a furnace start-up, which is not necessarily the case. The Board revised this section of the final-form rulemaking. Section 129.305(b) specifies that a plan approval application for a furnace start-up exemption request shall be submitted “if required,” in recognition that some furnace start-ups may not require a plan approval.

The NOx proposal should adopt the 2007 National Emissions Standards for Hazardous Air Pollutants (NESHAP) definition of “glass melting furnace” instead of using the outdated 1980 New Source Performance Standard (NSPS) definition. The NSPS definition includes a list of extraneous nonfurnace equipment that goes against the intent of the proposed rulemaking that requires monitoring NOx emissions from only the furnace. The Board agrees with the commentator. The final-form rulemaking adopted the 2007 NESHAP definition of the term “glass melting furnace” that was published at 72 FR 73180 (December 26, 2007).

The definition of “furnace rebuild” is unclear and appears to broaden the scope of repair activities that currently require permitting, and the definition should exclude rebricking activities as defined in 40 CFR Part 60, Subpart CC (relating to standards of performance for glass manufacturing plants) and likewise exclude those activities from permitting. The term “complete reconstruction” in the definition of “furnace rebuild” should be stated as “reconstruction.” The Board agrees and made the necessary changes.

The Committees commented to the Board that the definition of “start-up” should be revised to be consistent with the SJVAPCD Rule to include necessary language on furnace stabilization, that is, the phrase “and systems and instrumentation are brought to stabilization.” The Board agrees with the commentator. The proposed definition of the term “start-up” in § 121.1 has been revised.

The proposed regulation should not expand the scope of what currently triggers permitting or plan approvals specified in the *Pennsylvania Code* and existing Federal regulations, and exemptions should be included for furnace rebricking and repairs or replacements that do not constitute a modification. The final-form rulemaking will require compliance with the NOx emission limits by January 1, 2012. The plan approval issued for the construction of a new glass melting furnace or furnace modification shall include terms and conditions consistent with the requirements of Chapter 127, Subchapter B (relating to plan approval requirements). The Board added in § 121.1 in the final-form rulemaking a definition for “cold shutdown” and the final-form rulemaking includes “scheduled” whenever “cold shutdown” is used

within the final-form rulemaking to distinguish between furnace repair activities and a scheduled “cold shutdown” when the furnace is cold and does not contain molten glass. The Board believes this will alleviate the concerns about routine repairs to a furnace.

The selective catalytic reduction and selective noncatalytic reduction add-on control technologies for glass furnaces are not technically feasible control technologies for the intermittent NOx emissions from nitrate decomposition, and therefore are not feasible add-on controls for this commentator’s glass melting furnace facility. This commentator requested the Board to explicitly exclude its facility from the proposed rulemaking. The Board disagrees with the commentator. The Board recognized that furnaces within this Commonwealth that produce a glass product other than the four types listed in the proposed rulemaking (flat, container, fiberglass and pressed and blown) were not adequately considered in the proposed rulemaking. As a result, the Board added under § 129.304 in the final-form rulemaking an emission limit of 6.0 lbs NOx/ton of glass pulled for a glass melting furnace that does not produce flat, container, fiberglass or pressed and blown glass products. The Board, in researching and analyzing these types of furnaces within this Commonwealth, considered the limit of 6.0 lbs NOx/ton of glass pulled to be a reasonable limit based on the low NOx burner technology that is available to reduce uncontrolled NOx emissions by 30–35%.

The proposed rulemaking was directed at combustion sources of NOx, and the rule’s intent is to limit emissions of thermal NOx. Since 95% of this commentator’s NOx emissions are from decomposition of nitrogen-containing raw materials and not from thermal NOx combustion processes, the Board should clarify that it is inappropriate to apply the proposed rulemaking to them. The Board disagrees with the commentator. The purpose of the final-form rulemaking is to control NOx emissions from glass melting furnaces. Applicability § 129.302 of the final-form rulemaking clearly states that the provisions of the rulemaking apply to an owner or operator of a glass melting furnace that emits or has the potential to emit NOx at a rate greater than 50 tons per year. If a glass melting furnace in this Commonwealth meets the applicability criteria, the final-form rulemaking provisions would apply.

The Committees and another commentator questioned the legal authority of the Department and the Board to require glass melting facilities to significantly reduce NOx emissions under the APCA. The commentators also stated that there is not a legal basis to require significant reductions in NOx emissions when it can be demonstrated that their facility does not contribute to the failure of any nonattainment area to comply with the air quality standards for ozone. The Board disagrees with the commentators. The Board has the legal authority to require the owners and operators of glass melting furnaces to limit their emissions of NOx. The law in this Commonwealth is well-settled regarding whether a regulation is valid and binding. A court must evaluate if the regulation is: (1) within the agency’s granted power; (2) issued under proper procedures; and (3) reasonable. See, for example, *Rohrbaugh v. PUC*, 727 A.2d 1080 (1999) and *Housing Authority v. Pa. Civil Service Com’n*, 730 A.2d 935 (1999). Section 5 of the APCA provides that the Board will adopt rules and regulations for the prevention, control, reduction and abatement of air pollution, applicable throughout this Commonwealth. Clearly the intent of this regulation is to reduce air pollution, and so therefore the Board has the requisite legal authority. The

Board is proceeding with this rulemaking through the proper rulemaking procedures, as identified under the APCA, the Regulatory Review Act (71 P.S. §§ 745.1—745.12) and the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. § 1204(3)), known as the Commonwealth Documents Law (CDL). An environmental regulation is reasonable if it prevents the possibility of pollution (see *Department of Environmental Resources v. Metzger*, 347 A.2d 743 (Pa. Cmwlth. 1975)), protects the public health and safety (see *Chambers Development Company, Inc. v. Department of Environmental Resources*, 545 A.2d 404 (Pa. Cmwlth. 1988)) or reduces pollution (see *Rochez Bros., Inc. v. Department of Environmental Resources*, 334 A.2d 790 (Pa. Cmwlth. 1975)). Since this final-form rulemaking reduces pollution, it is reasonable.

The Committees and another commentator stated that the proposed rulemaking should provide for a variance if it could be demonstrated that it is economically unreasonable for the glass melting furnace facility to comply with the requirements of the rule, that the public interest is best served by granting the variance and that the current operations at the glass melting furnace facility have no significant adverse impact on atmospheric NOx concentrations and do not affect the Commonwealth's 8-hour ozone demonstration. The Board disagrees with the commentator. The Department disagrees with the commentator. A demonstration using air dispersion modeling (point-source or regional scale) to show that a single facility "does not contribute to the failure of any nonattainment area to comply with the air quality standards for ozone" is not the determination of whether a facility is subject to a proposed rulemaking. Moreover, a finding that emission reductions at one source of NOx does not contribute to the failure of a nonattainment area to comply with the air quality standards for ozone is not surprising. Sensitivity analyses have often shown that the Community Multiscale Air Quality model used by states for attainment demonstrations is relatively "stiff" considering even large emission changes; that is, the model may not predict large changes in ozone concentrations even when large emission reductions are made. Therefore, a variance relying on modeling would be inappropriate. The Department maintains that an atmospheric dispersion model such as CALPUFF is not appropriate to use to determine an ozone concentration because ozone is formed chemically and not solely by dispersion. Atmospheric chemistry plays a role in ozone formation, and modeling just the NOx emissions, as is the case with CALPUFF, does not address this atmospheric chemistry. Certain areas of this Commonwealth continue to exceed the health-based 1997 8-hour NAAQS for ozone. See 62 FR 38855. The final-form rulemaking to control NOx emissions from glass melting furnaces will result in additional NOx emission reductions that are necessary to support attaining and maintaining the health-based 1997 8-hour ozone NAAQS in this Commonwealth and downwind areas. Furthermore, on March 12, 2008, the EPA issued a more protective 8-hour ozone standard of 75 ppb that would require additional reductions of ozone precursor emissions, including NOx, that impact ozone attainment in this Commonwealth and throughout the OTR. See 73 FR 16436. However, the EPA has reconsidered the 2008 ozone NAAQS and published a proposed rulemaking at 75 FR 2938 to set a more protective 8-hour primary standard at a lower level within the range of 0.060—0.070 ppm; the final revised ozone standard is expected in August 2010. If, as is widely expected, the EPA tightens the ozone standard, the additional NOx emissions from the final-

form rulemaking for glass melting furnaces will be even more important than if the current ozone standard remains in place.

Nevertheless, the final-form rulemaking provides a petition process, rather than a variance, for an alternative emission limitation compliance deadline to the owner or operator of a glass melting furnace that demonstrates to the Department's satisfaction that it is economically or technologically infeasible to meet the NOx emission limitations in § 129.304(a). The alternative emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency. Moreover, this final-form rulemaking also includes a petition process for an alternative compliance schedule, rather than a variance, if an owner or operator of a glass melting furnace demonstrates that compliance with the NOx emission limitations will not be achieved by the January 1, 2012, compliance date in § 129.304(b).

This final-form rulemaking will also contribute to reduced formation of PM2.5 and regional haze. The EPA, in its "Clean Air Fine Particle Implementation Rule," determined that NOx emissions are also precursors to the formation of PM2.5. See 72 FR 20586 (April 25, 2007). In November 2009, the EPA designated 6 areas (all or part of 22 counties) in this Commonwealth as not attaining the 2006 24-hour PM2.5 NAAQS. See 74 FR 58688. Regional haze is visibility impairment that is produced by a multitude of sources and activities which emit fine particles and their precursors, including NOx, and which are located across a broad geographic area. See 64 FR 35713, 35715. Therefore, the adoption of the final-form rulemaking for glass melting furnaces will help to reduce formation of ozone, PM2.5 and regional haze in this Commonwealth and downwind. As a result, the regulation is reasonably necessary to attain and maintain the NAAQS for ozone and PM2.5.

A commentator stated that the Board did not adequately address, while drafting and promulgating the proposed regulation and in accordance with Executive Order 1996-1, whether the costs of the regulation exceed its benefits or not, and also that the proposed rulemaking does not support a conclusion that its costs will not exceed the benefits, and therefore the cost/benefit analysis should be more thoroughly addressed. The Board disagrees with the commentator. The Board addressed the benefits and the costs associated with the proposed rulemaking in the preamble published at 38 Pa.B. 1831 (April 19, 2008).

The Committees commented to the Board on behalf of PPG Industries during the ANFR comment period that an exemption from the emission limits should be included for glass melting furnaces during "periods of upset or malfunction" that affect an emission control device. The Board believes that an exemption for a furnace malfunction or upset period is not required. The Department does not routinely provide for exemptions from emission limits from a source for periods of upset or malfunction in regulations to control emissions from sources.

The Committees commented to the Board on behalf of PPG Industries during the ANFR comment period that the petition process described in § 129.304(b) and (c) of the ANFR final-form rulemaking should specify what factors the Department will consider for a glass melting furnace to qualify for an alternative compliance deadline. The Board believes the petition process in § 129.304(b) and (c) of the final-form rulemaking is comprehensive but not overly prescriptive and includes the factors suggested

by the Committees. In addition, the Board revised this section in the final-form rulemaking to require submittal, and not approval, of a petition request to the Department by January 1, 2012, and not by January 1, 2011.

Comments and Responses on the ANFR

As previously noted, an ANFR was published at 39 Pa.B. 5318 and the comment period closed on October 14, 2009. The draft final-form rulemaking contained significant changes in several areas, and the Department believed that while not legally required, further discussion and an additional comment period would serve the public interest. The most significant change made to the draft final-form rulemaking concerned the NO_x surrender compliance option under § 129.309(c) which allowed for the purchase of CAIR NO_x allowances. Three additional significant changes were made to the draft final-form rulemaking regarding: 1) year-round compliance; 2) an additional NO_x emission limit applicable to the owner or operator of a glass melting furnace that produces a glass product that is other than flat, container, fiberglass or pressed or blown; and 3) the final-form rulemaking provides a petition process for an alternative NO_x emission limitation to the owner or operator of a glass melting furnace that demonstrates it is economically or technologically infeasible to meet the established emission limitations under § 129.304. The alternative NO_x emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency. Moreover, this final-form rulemaking also includes a petition process for an alternative compliance schedule to an owner or operator of any glass melting furnace that demonstrates that compliance will not be achieved by the January 1, 2012, compliance date established in § 129.304(b).

Seventeen commentators submitted comments on the ANFR: the Committees; the Allegheny County Health Department (ACHD); two organizations; three legislators; and eight glass companies.

A commentator supports the adoption of the NO_x emission limits for fiberglass plants consistent with the 4.0 lbs NO_x/ton of glass pulled adopted by the OTC. The Department appreciates the commentator's support of the draft final-rulemaking for fiberglass plants. The Department agrees with the commentator that the OTC-recommended emission limit of 4.0 lb NO_x/ton of glass pulled for fiberglass plants in the final-form rulemaking achieves consistency and uniformity among the 13 members of the OTC and that the emission limit for fiberglass furnaces can be achieved with technologies currently available.

The commentator stated that it is an arbitrary and capricious action to base the regulation's proposed NO_x emission limits on a California rule without an explanation as to why they are appropriate to this Commonwealth. The Department proposed the allowable NO_x emission requirements as a result of the research conducted by and the recommendations of the Northeast OTC. The Northeast OTC is a multistate organization created under section 184 of the CAA. The OTC is responsible for advising the EPA on ground-level ozone pollution transport issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. The members of the OTC are required to demonstrate attainment with the 1997 8-hour ozone standard of 80 ppb. See 62 FR 38855.

Additionally, on March 12, 2008, the EPA issued a more protective 8-hour ozone standard of 75 ppb that would require additional reductions of ozone precursor emissions. See 73 FR 16436. The 2008 revised standard requires additional reductions of emissions of ozone precursors, including NO_x, that impact each member's nonattainment status. As required by the CAA, the Commonwealth submitted recommendations to the EPA in 2009 to designate 29 counties as nonattainment for the 2008 8-hour ozone NAAQS. The EPA was expected to take final action on the designation recommendations by March 2010. However, the EPA reconsidered the 2008 ozone NAAQS and published a proposed rulemaking at 75 FR 2938 to set a more protective 8-hour primary standard at a lower level within the range of 0.060–0.070 ppm; the final revised ozone standard is expected in August 2010. If, as is widely expected, the EPA tightens the ozone standard, the additional NO_x emissions reductions from the final-form rulemaking for glass melting furnaces will be even more important than if the current 2008 ozone standard remains in place. In addition, Northeast states are conducting attainment planning work to support development of PM_{2.5} and regional haze SIPs to satisfy obligations under the CAA and regulations issued under the CAA. See 74 FR 58688 and 64 FR 35713, 35714. NO_x emissions are precursors to the development of PM_{2.5} and regional haze.

The OTC undertook a study to identify a suite of additional control measures that could be used by the members in attaining their goals. Workgroups of staff from within the OTC members were established to evaluate control measures for specific sectors or issues. Department staff actively participated in these workgroups. Based on a review of 1,000 candidate control measures, the workgroups developed a short list of measures to be considered for more detailed analysis. The technical information for this short list of measures is found in the OTC report *Identification and Evaluation of Candidate Control Measures, Final Technical Support Document*, prepared by MACTEC Federal Programs, Inc., Herndon, VA, February 28, 2007. Control of NO_x emissions from glass melting furnaces in the six states within the OTR that have glass melting furnaces (this Commonwealth, Maryland, Massachusetts, New Jersey, New York and Rhode Island) was on the short list as a measure for further analysis by the workgroups. The workgroups reviewed information on current NO_x emissions from the furnaces, controls already in place on the furnaces, anticipated additional NO_x emissions reductions from the control measures, preliminary cost and cost-effectiveness data and other implementation issues. The workgroups discussed all the candidate control measures, including controlling NO_x emissions from glass melting furnaces, during a series of conference calls and workshops to further refine the emission reduction estimates, the cost data and implementation issues.

The workgroups also discussed comments from stakeholders, including glass melting furnace stakeholders (North American Insulation Manufacturers Association and Glass Association of North America). The OTC Commissioners summarized the glass melting furnace control measures and made a recommendation at the Commissioners' meetings in 2006 that the affected member states consider NO_x emission reductions from glass melting furnaces. The glass melting furnace stakeholders were provided multiple opportunities to review and comment on the glass melting furnace control measures summary. Public meetings were held as an opportunity for stakeholders to review and respond to the Commissioners'

recommendations, stakeholders provided written comments and the workgroups conducted conference calls with specific stakeholders to allow the stakeholders to vocalize their concerns directly to state regulatory staff and to discuss the control options. The OTC staff and state workgroups carefully considered the verbal and written comments received during this process.

The OTC's control measures summary recommends that states may allow the owners or operators of glass melting furnaces to propose compliance methods based on California's SJVAPCD Rule 4354 which allows a "mix of control options to meet specified emission limits." The NOx emission rates recommended in the OTC control measures summary document are the rates specified in the SJVAPCD Rule 4354. The Department reviewed, analyzed and concurred with the OTC's control measures summary document for glass melting furnaces with respect to the individual glass melting furnaces in this Commonwealth and determined that proposing a glass melting furnaces regulation based on the SJVAPCD Rule 4354 mix of control options to meet specified emission limits was the appropriate implementation strategy for a rulemaking to control NOx emissions from this Commonwealth's glass melting furnaces.

The Commonwealth, along with the other affected OTC member states, agreed to establish NOx emission limits and controls for glass melting furnaces that are based on SJVAPCD Rule 4354 so that there would be a level playing field among the OTC states. The owners and operators of glass melting furnaces in this Commonwealth remain competitive with those states not in the OTC with the option of an alternative compliance schedule or alternative emission limitation contained in the petition process that is provided in § 129.304(b) and (c) of the final-form rulemaking.

A commentator requested that the Department add to the final-form rulemaking a definitive and feasible alternate standard or exemption applicable to unique specialty glass operations such as theirs. The final-form rulemaking includes a petition process for an alternative compliance schedule or alternative NOx emission limitation if an owner or operator of any glass melting furnace demonstrates that compliance will not be achieved by the January 1, 2012, compliance date.

Several commentators questioned why the draft final-form regulation only provided an alternative emission limitation petition process in § 129.304(c) to the owners and operators of glass melting furnaces that produce an "other" glass product. The final-form rulemaking includes a petition process for an alternative compliance schedule or alternative NOx emission limitation if an owner or operator of a glass melting furnace that demonstrates that compliance will not be achieved by the January 1, 2012, compliance date.

The Committees, several legislators and other commentators commented that the Department should consider providing a variance procedure or exception from the regulation for a glass melting furnace that definitively demonstrates that its emissions are not materially contributing to the development of ground level ozone. The Department maintains that a demonstration using air dispersion modeling (point-source or regional scale) to show that a single facility "does not contribute to the failure of any nonattainment area to comply with the air quality standards for ozone" is not the determination of whether a facility is subject to a proposed rulemaking. Air dispersion models are not designed to simulate source-specific contributions to ozone nonattainment areas. A

finding that emission reductions at one source of NOx does not contribute to the failure of any nonattainment area to comply with the air quality standards for ozone is not surprising. Sensitivity analyses have often shown that the Community Multiscale Air Quality model used by states for attainment demonstrations is relatively "stiff" considering even large emission changes; that is, the model may not predict large changes in ozone concentrations even when large emission reductions are made. Therefore, a variance relying on modeling would be inappropriate. The Department maintains that an atmospheric dispersion model such as CALPUFF is not appropriate to use to determine an ozone concentration because ozone is formed chemically and not solely by dispersion. Atmospheric chemistry plays a role in ozone formation, and modeling just the NOx emissions, as is the case with CALPUFF, does not address this atmospheric chemistry." Moreover, the OTC undertook a study to identify a suite of control measures that could be used by the members as part of a regional effort to attain and maintain the 1997 NAAQS for ozone. The NOx emissions reductions from glass melting furnaces are a necessary component in this regional strategy. Certain areas of this Commonwealth continue to exceed the health-based 1997 8-hour NAAQS for ozone. This final-form rulemaking to control NOx emissions from glass melting furnaces will result in additional NOx emission reductions that are necessary to support attaining and maintaining the health-based 1997 8-hour ozone NAAQS of 80 ppb in this Commonwealth and downwind areas. See 62 FR 38855. Furthermore, on March 12, 2008, the EPA issued a more protective 8-hour ozone standard of 75 ppb that would require additional reductions of ozone precursor emissions, including NOx, that impact each OTR member's nonattainment status. See 73 FR 16436. However, the EPA reconsidered the 2008 ozone NAAQS and published a proposed rulemaking at 75 FR 2938 to set a more protective 8-hour primary standard at a lower level within the range of 0.060-0.070 ppm; the final revised ozone standard is expected in August 2010. If, as is widely expected, the EPA tightens the ozone standard, the additional NOx emissions reductions from the final-form rulemaking for glass melting furnaces will be even more important than if the current 2008 ozone standard remains in place.

Nevertheless, the final-form rulemaking provides a petition process, rather than a variance, for an alternative NOx emission limitation or compliance schedule to the owner or operator of any glass melting furnace that demonstrates it is economically or technologically infeasible to meet the NOx emission limitations specified in § 129.304(a). The alternative NOx emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency. Moreover, this final-form rulemaking also includes a petition process for an alternative compliance schedule, rather than a variance, to an owner or operator of a glass melting furnace that demonstrates that compliance will not be achieved by the January 1, 2012, compliance date.

This final-form rulemaking will also reduce concentrations of PM2.5 and the formation of regional haze. The EPA, in its "Clean Air Fine Particle Implementation Rule," determined that NOx emissions are also precursors to the formation of PM2.5. See 72 FR 20586. Additionally, in November 2009, the EPA designated 6 areas (all or part of 22 counties) in this Commonwealth as not attaining the 2006 24-hour PM2.5 NAAQS. See 74 FR 58688. The EPA is also evaluating the adequacy of the 2006

PM2.5 NAAQS as part of its periodic review required under section 109(d)(1) of the CAA (42 U.S.C.A. § 7409(d)(1)). Furthermore, when initially adopting the visibility protection provisions of the 1977 CAA Amendments, Congress specifically recognized that the “visibility problem is caused primarily by emission into the atmosphere of SO₂, oxides of nitrogen, and particulate matter, especially fine particulate matter, from inadequate[ly] controlled sources.” See 64 FR 35713, 35715. Section 169A(a)(1) of the CAA (42 U.S.C.A. § 7491(a)(1)) sets forth a National goal for visibility which is the “prevention of any future, and the remedying of any existing, impairment of visibility in Class I areas which impairment results from manmade air pollution.” If adopted, the NO_x emission reduction provisions of the final-form rulemaking for glass melting furnaces will help to reduce formation of ozone, PM_{2.5} and regional haze pollution in this Commonwealth and throughout the OTR. As a result, the regulation is reasonably necessary to attain and maintain the NAAQS for ozone and PM_{2.5}.

A primary comment made by numerous commentators, including the Committees, is that to avoid possible economic disruption to the operations at the affected furnaces, the Department should allow an existing furnace to operate through its full life cycle before requiring it to be replaced or rebuilt with control technology to meet the regulation’s NO_x emission limits. The commentators suggest that it may assist the Department as well as the regulated industry to not base the compliance time frame on a specific date. The commentators also state that other states permit furnaces to be upgraded after their normal and anticipated life expectancy has been exhausted. The Department disagrees with the commentators. The Department agrees that it could possibly be infeasible for all affected owners or operators of glass melting furnaces to comply with the allowable emission limits by January 1, 2012. In recognition of this, § 129.304(b) in the final-form rulemaking provides a process to all glass melting furnace owners and operators to petition the Department for an alternative compliance schedule if they will be unable to meet the emission limits beginning January 1, 2012. The Department believes that a final compliance date specified in the regulation is necessary to ensure that the owners and operators of the glass melting furnaces in this Commonwealth limit the NO_x emissions from their furnaces by a date certain, either by January 1, 2012, or by the date specified on a case-by-case basis as determined through the petition process for an alternative compliance schedule under § 129.304(c). Moreover, the EPA would not approve revisions to the California SIP contained in the SJVAPCD Rule addressing NO_x emissions from glass melting furnaces, because the Compliance Schedule section of the rule did not specify a final date for facilities to achieve full compliance with the emission limits specified in the rule’s requirements section. See 67 FR 20078 (April 24, 2002). As a result, the Department believes that a final compliance date specified in the final-form regulation is necessary to receive SIP approval from the EPA.

Several commentators commented that the petition process described in § 129.304(b) and (c) of the draft final rulemaking should specify what factors the Department will consider for the owner or operator of a glass melting furnace to qualify for an alternative compliance deadline. The Department believes the petition process in § 129.304(b) and (c) is comprehensive but not overly prescriptive and includes all the factors suggested by the commentators. In addition, the Department revised this section in the final-form rulemaking to require submittal of a petition request to, and not approval by, the Depart-

ment by January 1, 2012, rather than approval by January 1, 2011. The Department maintains that the concerns expressed by the commentators regarding the petition process will be alleviated by the change to the final-form regulation that requires submittal of the petition by January 1, 2012, and does not require approval of the petition by January 1, 2011.

A comment was made requesting that the short-term applicability criteria for a furnace that emits NO_x at greater than 20 pounds per hour, but otherwise emits below 50 tons per year of NO_x, be deleted from the final-form rulemaking. The Department agrees with the commentator in that applying the regulation to these unique glass melting operations will not result in significant overall emission reductions. Section 129.302 in the final-form rulemaking has been revised to include only owners and operators of furnaces that emit NO_x at greater than 50 tons per year as subject to the regulation.

The ACHD commented that the final-form rulemaking should be modified to state that the regulation applies to furnaces in the jurisdiction of a local air pollution control agency, and for ACHD to implement the provisions of the regulation, all reports and notifications required under the regulation should be submitted directly to the local agency. The Department agrees with the commentator, and the change has been made.

One commentator stated that the exemptions section should be revised to require that the owner or operator of a glass melting furnace notify the Department within 24 hours after the initiation of an exemption operation, instead of within 24 hours prior to initiating the operation, because there are some instances where an unforeseen problem requires a facility to immediately go into an unanticipated idling position. The Department agrees with the commentator, and that change has been made.

One commentator stated that the timing of written notification to the Department contained in the exemptions in § 129.303 not be tied to the occurrence of the exemption event itself. The Department disagrees with the commentator. The Department maintains that the requirement in § 129.303(b) to notify the Department within 24 hours of initiating the exempt operation, and the requirement in § 129.303(d) to notify the Department in writing within 24 hours after completion of the exempt operation, is reasonable and not burdensome to the facility claiming the exemption.

Several commentators commented that an exemption from the emission limits should be included for glass melting furnaces during “periods of upset or malfunction” that affect an emission control device. Comments were also made that the routine maintenance exemption of 144 hours in total for add-on emission controls is not long enough to account for the complexities of the control techniques likely to be employed, and that each major component of the control system be exempted from the emission limits for 144 hours each calendar year for routine maintenance. The Department believes that an exemption for a furnace malfunction or upset period is not required. The Department does not routinely provide for exemptions from emission limits for periods of upset or malfunction in regulations to control emissions from sources.

Several commentators commented that the furnace start-up section should be modified to require a plan approval application for a start-up exemption only “if required” and not for activities associated with routine repair or maintenance of the furnace. The Department

has revised this section of the final-form rulemaking. Section 129.305(b) specifies that a plan approval application for a furnace start-up exemption request shall be submitted "if required" in recognition that some furnace start-ups may not require a plan approval.

Commentators note that the "not to exceed 5% excess oxygen" restriction during a furnace combustion start-up should be eliminated, as it does not appear to have a relationship or a benefit to NOx emissions. The Department retains in the final-form rulemaking the furnace start-up restriction in § 129.305(f) of "not to exceed 5% excess oxygen," which is consistent with the furnace start-up requirements in SJVAPCD Rule 4354.

Several commentators commented that the definition of the term "start-up" should be revised consistent with SJVAPCD Rule 4354 to include necessary language on furnace stabilization, that is, the phrase "and systems and instrumentation are brought to stabilization." The Department agrees with the commentators, and that change was made.

Two commentators commented that the definition of "rebricking" and the revised definition of "furnace rebuild" in the draft final-form rulemaking are confusing, and further comment that they have concern over whether routine repairs to a furnace would be considered a rebuild or rebrick of the furnace. The Department agrees with the commentators and deleted both definitions in the final-form rulemaking and has added a definition for "cold shutdown," and included "scheduled" whenever "cold shutdown" is used within the final-form rulemaking to distinguish between furnace repair activities and a scheduled cold shutdown when the furnace is cold and does not contain molten glass.

Several commentators commented that the data substitution method for emissions monitoring in the compliance determination section that requires the highest valid 1-hour emission value during the reporting quarter be substituted for invalidated data is unreasonable and punitive. They comment further that for periods of invalid data, the Department should allow substituting data that is more representative of the actual emissions. The Department agrees with the commentators, and revised the data substitution method in the final-form rulemaking to require the highest valid 1-hour value that occurred under similar source operating conditions during the reporting quarter be substituted for the invalidated data.

Several commentators commented that the requirements in §§ 129.308 and 129.309 to report CEMS data and daily glass production data on a quarterly basis are inconsistent with existing Title V reporting requirements and create a duplicative and burdensome additional reporting obligation on the regulated community. The Department disagrees with the commentators. The Department does not believe that maintaining records of daily glass production will present a significant inconvenience to owners or operators. Daily records may be needed to enable the Department to verify the relationship between NOx emissions recorded by CEMS, and glass produced during the compliance period. Records sufficiently precise to quantify glass produced by each glass melting furnace during a reporting quarter are necessary to enable owners and operators to demonstrate compliance. Continuous emission monitoring is the most precise means of determining emissions over extended time periods.

Several commentators requested the Department work with the regulated industry in a transparent manner so that the true benefits and costs of the regulation will be known. The commentators further state that although the Department asserts several times in the preamble to the proposed NOx regulation that reducing NOx emissions will also result in reduced emissions of fine particulate matter, they have not provided the regulated community with data or information that supports this assertion. The Department's commitment to transparency is supported by its decision to publish an ANFR on the draft final-form regulation. The EPA, in its "Clean Air Fine Particle Implementation Rule," determined that NOx emissions are precursors to the formation of PM2.5. See 72 FR 20586. In November 2009, the EPA designated 6 areas (all or part of 22 counties) as not attaining the 2006 24-hour PM2.5 NAAQS. See 74 FR 58688. Therefore, the adoption of the final-form rulemaking for glass melting furnaces will help to reduce formation of PM2.5 and is reasonably necessary to attain and maintain the PM2.5 NAAQS.

A commentator stated that the Department did not adequately address, while drafting and promulgating the proposed rulemaking and in accordance with Executive Order 1996-1, whether the costs of the regulation exceed its benefits or not, and also that the proposed rulemaking does not support a conclusion that its costs will not exceed the benefits, and therefore the cost/benefit analysis must be provided. The commentator states further that the Board acknowledges in the ANFR that the EPA advised the Commonwealth that the EPA's CAIR does not apply to glass melting furnaces, and therefore the draft final-form rulemaking imposes requirements on glass melting furnaces that are more stringent than Federal standards. The Department disagrees with the commentator. The Department addressed the benefits and the costs associated with the proposed rulemaking in the preamble to the proposed rulemaking's public notice published at 38 Pa.B. 1831. The purpose of this final-form rulemaking is to address reductions of NOx from glass melting furnaces, while the EPA's CAIR addresses NOx reductions from EGUs, certain boilers, stationary combustion turbines and stationary internal combustion engines. Therefore, these are two different regulatory strategies with the goal of reducing NOx emissions from various source types within this Commonwealth. The EPA did not intend CAIR to comprise the entire solution to control NOx emissions from all types of sources, but only to address interstate transport of ozone and PM2.5 precursors. Moreover, this final-form rulemaking is reasonably necessary to attain and maintain the 8-hour ozone NAAQS.

The commentator stated that the Board acknowledges in the ANFR that the EPA advised the Commonwealth that CAIR does not apply to glass melting furnaces, and therefore the draft final-form rulemaking imposes requirements on glass melting furnaces that are more stringent than Federal standards. The purpose of the rulemaking is to address reductions of NOx from glass melting furnaces, while the EPA's CAIR addresses NOx reductions from EGUs, certain boilers, stationary combustion turbines and stationary internal combustion engines. Therefore, these are two different regulatory strategies with the goal of reducing NOx emissions from various source types within this Commonwealth. The EPA did not intend CAIR to comprise the entire solution to control NOx emissions from all types of sources, but only to address interstate transport of ozone and PM2.5 precursors from the EGU sector. In fact, this Commonwealth

and other OTC members determined that additional NO_x reductions may be necessary in some areas, in combination with reduction of interstate transport, to attain and maintain the NAAQS. In addition to the PM_{2.5} NAAQS, this final-form rulemaking is reasonably necessary to attain and maintain the 1997 8-hour ozone NAAQS. The criteria for adopting state regulations more stringent than Federal regulations (when Federal regulations exist) are in section 4.2 of the APCA. Section 4.2 of the APCA authorizes the Board to adopt regulations more stringent than Federal requirements when the control measures are reasonably necessary to attain and maintain the ambient air quality standards.

A commentator commented that the final-form rulemaking violates section 4.2 of the APCA, because section 4.2 of the APCA restricts the Board to adopting by regulation "... only those control measures or other requirements which are reasonably required, in accordance with the Clean Air Act deadlines, to achieve and maintain the ambient air quality standards or to satisfy related Clean Air Act requirements..." They further quote section 4.2 of the APCA: "Control measures or other requirements adopted under subsection (a) of this section shall be no more stringent than those required by the Clean Air Act unless authorized or required by this act or specifically required by the Clean Air Act." The commentator maintains that NO_x emissions from glass melting furnaces are not currently regulated by the EPA, so therefore this rulemaking is prohibited by section 4.2 of the APCA since it is more stringent than required by the CAA. The Department disagrees with the commentator. The Department has the legal authority to require glass melting furnaces to limit their emissions of NO_x. The law in this Commonwealth is well-settled regarding whether a regulation is valid and binding. A court must evaluate if the regulation is: (1) within the agency's granted power; (2) issued under proper procedures; and (3) reasonable. See for example, *Rohrbaugh v. PUC*, 727 A.2d 1080 (1999); and *Housing Authority v. Pa. Civil Service Com'n*, 730 A.2d 935 (1999). Section 5 of the APCA provides that the Board shall adopt rules and regulations, for the prevention, control, reduction and abatement of air pollution, applicable throughout this Commonwealth. Clearly the intent of this regulation is to reduce air pollution, and so therefore the Board has the requisite legal authority. The Board is proceeding with this rulemaking through the proper rulemaking procedures, as identified under the APCA, the Regulatory Review Act and the CDL. An environmental regulation is reasonable if it prevents the possibility of pollution (see *Department of Environmental Resources v. Metzger*, 347 A.2d 743 (Pa. Cmwlth. 1975)), protects the public health and safety (see *Chambers Development Company, Inc. v. Department of Environmental Resources*, 545 A.2d 404 (Pa. Cmwlth. 1988)) or reduces pollution (see *Rochez Bros., Inc. v. Department of Environmental Resources*, 334 A.2d 790 (Pa. Cmwlth. 1975)). Since this final-form rulemaking reduces pollution it is reasonable.

The commentator indicated the Department should consider development of a pool of surplus NO_x "credits" from glass melting furnaces and allow trading and use of these credits by owners and operators of glass melting furnaces to demonstrate compliance with the regulation, in light of the elimination of using CAIR NO_x allowances as a compliance option in the draft final-form rulemaking. The Department disagrees with the commentator. Subsequent to the closing of the public comment period on June 23, 2008, the Department held discussions with the EPA regarding the proposed rulemaking's option to demon-

strate compliance with the emission limits through the purchase of CAIR NO_x allowances under the EPA's CAIR regulation. During those discussions, the EPA indicated to the Department that a glass melting furnace regulation that would provide a compliance option to purchase CAIR NO_x allowances would be problematic as far as approvability by the EPA for the Commonwealth's SIP, because glass melting furnaces are not specifically included in the EPA's CAIR program as a source category able to purchase CAIR NO_x allowances to achieve compliance. The Department therefore removed from the draft final-form regulation the compliance option to purchase CAIR NO_x allowances.

G. Benefits, Costs and Compliance

Benefits

Overall, the citizens of this Commonwealth will benefit from this final-form rulemaking because these amendments will result in improved air quality by reducing ozone and PM_{2.5} precursor emissions. The final-form rulemaking will also encourage the development of new technologies and practices, which will reduce emissions of NO_x.

Compliance Costs

The owners and operators of glass melting furnaces in this Commonwealth will be required to install and operate an emissions monitoring system or equipment necessary for an emissions monitoring method to comply with the final-form rulemaking. If an owner or operator elects to install and operate a CEMS, the cost could be as high as \$300,000. However, the final-form rulemaking provides for the installation and operation of an alternate emissions monitoring system or method approved by the Department, in writing, which could significantly reduce the monitoring costs. The estimated cost of the alternate emissions monitoring system or method, if elected by an owner or operator of a glass melting furnace, would cost approximately \$100,000, and would include any one of a number of alternatives including computer modeling or a predictive emissions monitoring system.

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 compliance assistance program.

Paperwork Requirements

The final-form rulemaking will not significantly increase the paperwork that is already generated during the normal course of business operations.

H. Pollution Prevention

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) 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 final-form rulemaking provides the owners and operators of glass melting

furnaces the opportunity to improve the energy efficiency of their operations, which will result in lower NOx emissions.

I. *Sunset Review*

This final-form rulemaking 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.

J. *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 the notice of proposed rulemaking, published at 38 Pa.B. 1831, to IRRC and the Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on May 12, 2010, the final-form rulemaking was deemed approved by the Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on May 13, 2010, and approved the final-form rulemaking.

K. *Findings*

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the CDL (45 P. S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 Pa. Code §§ 7.1 and 7.2.

(2) At least a 60-day public comment period was provided as required by law and all comments were considered.

(3) These regulations do not enlarge the purpose of the proposal published at 38 Pa.B. 1831.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

(5) These regulations are reasonably necessary to attain and maintain the ozone and PM2.5 NAAQS.

L. *Order*

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapters 121 and 129, are amended by amending § 121.1 and by adding §§ 129.301—129.310 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This final-form rulemaking will be submitted to the EPA as an amendment to the Pennsylvania SIP.

(f) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

JOHN HANGER,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission relating to this document, see 40 Pa.B. 2838 (May 29, 2010).)

Fiscal Note: Fiscal Note 7-420 remains valid for the final adoption of the subject regulations.

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:

* * * * *

Blown glass—Glassware shaped by blowing air into a molten glass gather.

* * * * *

Cold shutdown—A cold repair or replacement of damaged or worn refractory parts of a glass melting furnace while the furnace does not contain molten glass.

* * * * *

Container glass—Glass manufactured by pressing, blowing in molds, drawing, rolling or casting which is used as a container.

* * * * *

Fiberglass—For purposes of §§ 129.301—129.310 (relating to control of NOx emissions from glass melting furnaces), material consisting of fine filaments of glass that are combined into yarn and woven or spun into fabrics, or that are used as reinforcement in other materials or in masses as thermal or as acoustical insulating product.

* * * * *

Flat glass—Glass produced by the float, sheet, rolled or plate glass process which is used in windows, windshields, tabletops or similar products.

* * * * *

Glass melting furnace—A unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

* * * * *

Idling—For purposes of §§ 129.301—129.310, the operation of a glass melting furnace at less than 25% of the permitted production capacity or fuel use capacity as stated in the plan approval or operating permit.

* * * * *

Permitted production capacity—The maximum pull rate as stated in the plan approval, operating permit or Title V permit.

* * * * *

Pressed glass—Glassware formed by placing a blob of molten glass in a metal mold, then pressing it with a metal plunger or “follower” to form the inside shape. The resultant piece, termed “mold-pressed,” has an interior form independent of the exterior, in contrast to mold-blown glass, whose interior corresponds to the outer form.

* * * * *

Primary furnace combustion system—The burners in a glass melting furnace that are used during production of glass.

* * * * *

Pull rate—The amount of glass withdrawn from a glass melting furnace, expressed in short tons per day.

* * * * *

Shutdown—For purposes of §§ 129.301—129.310, the period of time during which a glass melting furnace is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to a cold or ambient temperature as the fuel supply is turned off.

* * * * *

Start-up—For purposes of §§ 129.301—129.310, the period of time, after initial construction, shutdown or cold shutdown, during which a glass melting furnace is heated to stable operating temperature by the primary furnace combustion system, and systems and instrumentation are brought to stabilization.

* * * * *

**CHAPTER 129. STANDARDS FOR SOURCES
CONTROL OF NO_x EMISSIONS FROM GLASS
MELTING FURNACES**

§ 129.301. Purpose.

The purpose of this section and §§ 129.302—129.310 is to annually limit the emissions of NO_x from glass melting furnaces.

§ 129.302. Applicability.

This section, § 129.301 (relating to purpose) and §§ 129.303—129.310 apply to an owner or operator of a glass melting furnace in this Commonwealth, including those within the jurisdiction of local air pollution control agencies in Philadelphia and Allegheny Counties approved under section 12 of the act (35 P. S. § 4012), that emits or has the potential to emit NO_x at a rate greater than 50 tons per year.

§ 129.303. Exemptions.

(a) The emission requirements in § 129.304 (relating to emission requirements) do not apply during periods of start-up, shutdown, or idling as defined in § 121.1 (relating to definitions), if the owner or operator complies with the requirements in §§ 129.305, 129.306 and 129.307 (relating to start-up requirements; shutdown requirements; and idling requirements).

(b) The owner or operator of a glass melting furnace claiming an exemption under subsection (a) shall notify the Department or the appropriate approved local air pollution control agency in writing within 24 hours after initiation of the operation for which the exemption is claimed. The methods for submitting the written notice

may include e-mail, hand or courier delivery, certified mail or facsimile transmissions to the appropriate regional office described in § 121.4 (relating to regional organization of the Department) or appropriate approved local air pollution control agency. The notification must include:

- (1) The date and time of the start of the exempt operation.
- (2) The reason for performing the operation and an estimated completion date.
- (3) Identification of the emission control system operating during the exemption period.

(c) The owner or operator of a glass melting furnace granted an exemption under this section shall maintain operating records or documentation, or both, necessary to support the claim for the exemption. The records shall be maintained for 5 years onsite and made available or submitted to the Department or appropriate approved local air pollution control agency, upon request.

(d) The owner or operator of a glass melting furnace shall notify the Department or the appropriate approved local air pollution control agencies in writing within 24 hours after completion of the operation for which the exemption is claimed.

§ 129.304. Emission requirements.

(a) Except as specified in §§ 129.303, 129.304(c), 129.305, 129.306 and 129.307, the owner or operator of a glass melting furnace may not operate the glass melting furnace in a manner that results in NO_x emissions in excess of the following allowable limits or NO_x emission limits contained in the plan approval or operating permit, whichever are lower:

- (1) 4.0 pounds of NO_x per ton of glass pulled for container glass furnaces.
- (2) 7.0 pounds of NO_x per ton of glass pulled for pressed or blown glass furnaces.
- (3) 4.0 pounds of NO_x per ton of glass pulled for fiberglass furnaces.
- (4) 7.0 pounds of NO_x per ton of glass pulled for flat glass furnaces.
- (5) 6.0 pounds of NO_x per ton of glass pulled for all other glass melting furnaces.

(b) The owner or operator of a glass melting furnace shall comply with subsection (a) by January 1, 2012, unless a petition for an alternative emission limitation or compliance schedule is submitted, in writing, to the Department and appropriate approved local air pollution control agency by January 1, 2012, in accordance with subsection (c) and approved, in writing, by the Department or appropriate approved local air pollution control agency.

(c) An owner or operator of a glass melting furnace that does not meet the NO_x emission limits specified under this section by January 1, 2012, may petition the Department and appropriate approved local air pollution control agency for an alternative emission limitation or compliance schedule as follows:

(1) The owner or operator of a glass melting furnace subject to this section may submit, in writing, a petition requesting an alternative emission limitation. The petition must demonstrate to the satisfaction of the Department and appropriate approved local air pollution control agency that it is economically or technologically infeasible to meet the emission limitation under this section. The

alternative emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(2) The owner or operator of a glass melting furnace for which the schedule for cold shutdown does not allow compliance by January 1, 2012 may submit a petition, in writing, requesting an alternative compliance schedule. The alternative compliance schedule for a cold shutdown which occurs after June 19, 2010, may not be extended beyond 180 days from the start-up of the furnace after the cold shutdown, unless approved, in writing, by the Department.

(3) A petition must include the following:

(i) A brief description, including make, model and location, of each affected glass melting furnace.

(ii) A list of all air pollution control technologies and measures that have been installed on each affected glass melting furnace and are operating to control emissions of NO_x.

(iii) The date of installation and original commencement of operation for each of the technologies and measures listed in accordance with subparagraph (ii).

(iv) An explanation of how the NO_x control technology or measure installed has been optimized for the maximum NO_x emission reduction for each of the technologies and measures listed in accordance with subparagraph (ii).

(v) The results of each stack test and other emissions measurements for the affected glass melting furnace following the installation and commencement of operation of the air pollution control technologies and measures listed in accordance with subparagraph (ii).

(vi) The date of last scheduled cold shutdown for each affected furnace.

(vii) The date of next scheduled cold shutdown of each affected furnace.

(viii) Other relevant information requested, in writing, by the Department or appropriate approved local air pollution control agency.

(4) If an alternative compliance schedule is sought to meet the requirements of this section, the owner or operator shall submit a proposed schedule containing proposed interim milestone dates for completing each phase of the required work and a proposed final compliance date. The petition must also include a proposed interim emission limitation until compliance is achieved with the requirements specified in this section.

(5) If an alternative emission limitation is sought to meet the requirements of this section, the conditions or special circumstances which demonstrate that the applicable requirements are technologically or economically infeasible.

(6) If an alternative emission limitation is sought to meet the requirements of this section, the owner or operator shall propose emission limitations in the petition.

(7) Approved interim milestone dates or emission limitations determined to be necessary for effective monitoring of progress toward full compliance with the requirements of this section, §§ 129.301—129.303 and 129.305—129.310 shall be specified in a plan approval or operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(d) During routine maintenance of an add-on emission control system or systems, or maintenance or repair measures on furnace components, the owner or operator of a glass melting furnace subject to the emission limits specified under subsection (a) is exempt from these limits if:

(1) All routine maintenance of an add-on emission control system or maintenance or repair measures on furnace components, or both, combined, in each calendar year does not exceed 144 hours total.

(2) The routine maintenance or maintenance or repair measure, or both, is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

§ 129.305. Start-up requirements.

(a) The owner or operator of the glass melting furnace shall submit, in writing, to the Department or appropriate approved local air pollution control agency, no later than 30 days prior to the anticipated date of start-up, information requested by the Department or appropriate approved local air pollution control agency to assure proper operation of the furnace. The information must include the following:

(1) A detailed list of activities to be performed during start-up and an explanation for the length of time needed to complete each activity.

(2) A description of the material process flow rates and system operating parameters and other information that the owner or operator plans to evaluate during the process optimization.

(b) The owner or operator of a glass melting furnace may submit a request for a start-up exemption in conjunction with the plan approval application if required. The actual length of the start-up exemption, if any, will be determined by the Department or appropriate approved local air pollution control agency at the time of the issuance of the plan approval or operating permit.

(c) The length of the start-up exemption following activation of the primary furnace combustion system may not exceed:

(1) Seventy days for a container, pressed or blown glass furnace.

(2) Forty days for a fiberglass furnace.

(3) One hundred and four days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).

(d) The requirements of subsection (c) notwithstanding, if the NO_x control system is not in common use or is not readily available from a commercial supplier, the length of the maximum start-up exemption following activation of the primary furnace combustion system is as follows:

(1) One hundred days for a container, pressed or blown glass furnace.

(2) One hundred and five days for a fiberglass furnace.

(3) Two hundred and eight days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).

(e) The Department or appropriate approved local air pollution control agency may approve start-up exemptions, as appropriate, to the extent that the submittal clearly:

(1) Identifies the control technologies or strategies to be used.

(2) Describes the physical conditions that prevail during start-up periods that prevent the controls from being effective.

(3) Provides a reasonably precise estimate as to when physical conditions will have reached a state that allows for the effective control of emissions.

(f) During the start-up period, the owner or operator of a glass melting furnace shall maintain the stoichiometric ratio of the primary furnace combustion system so as not to exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

(g) The owner or operator shall place the emission control system in operation as soon as technologically feasible during start-up to minimize emissions.

§ 129.306. Shutdown requirements.

(a) The duration of a glass melting furnace shutdown, as measured from the time the furnace operations drop below 25% of the permitted production capacity or fuel use capacity to when all emissions from the furnace cease, may not exceed 20 days.

(b) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during shutdown to minimize emissions.

§ 129.307. Idling requirements.

(a) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during idling to minimize emissions.

(b) The NOx emissions during idling may not exceed the amount calculated using the following equation:

$$\text{Pounds per day emission limit of NOx} = (\text{Applicable NOx emission limit specified in § 129.304(a) (relating to emission requirements) expressed in pounds per ton of glass produced}) \times (\text{Furnace permitted production capacity in tons of glass produced per day})$$

§ 129.308. Compliance determination.

(a) Not later than 14 days prior to the applicable compliance date under § 129.304(b) or (c), the owner or operator of a glass melting furnace subject to this section, §§ 129.301—129.307, 129.309 and 129.310 shall install, operate and maintain continuous emissions monitoring systems (CEMS, as defined in § 121.1 (relating to definitions)) for NOx and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and calculate actual emissions using the CEMS data reported to the Department. The owner or operator of a glass melting furnace may install or operate, or both, an alternate NOx emissions monitoring system or method, approved in writing by the Department or appropriate approved local air pollution control agency.

(b) Data invalidated under Chapter 139, Subchapter C, shall be substituted with the following if approved in writing by the Department or appropriate approved local air pollution control agency:

(1) The highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter.

(2) If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department or appropriate approved local air pollution control agency:

(i) The highest valid 1-hour emission value that occurred under similar source operating conditions during the most recent quarter for which valid data were collected.

(ii) The highest valid 1-hour emission value that occurred under similar source operating conditions during an alternative reporting period.

(3) An alternative method of data substitution.

(c) Instead of data substitution, the Department or appropriate approved local air pollution control agency may approve an alternative procedure to quantify NOx emissions and glass production.

(d) The owner or operator of a glass furnace subject to this section shall submit to the Department or the appropriate approved local air pollution control agencies quarterly reports of CEMS monitoring data in pounds of NOx emitted per hour, in a format approved by the Department and in compliance with Chapter 139, Subchapter C, or a format approved by the appropriate approved local air pollution control agencies.

(e) The CEMS or approved monitoring system or method for NOx installed under this section must meet the minimum data availability requirements in Chapter 139, Subchapter C.

§ 129.309. Compliance demonstration.

(a) The owner or operator of a glass melting furnace shall calculate and report to the Department or appropriate approved local air pollution control agency on a quarterly basis, no later than 30 days after the end of the quarter, the CEMS data and glass production data used to show compliance with the allowable NOx emission limitation specified in § 129.304 (relating to emission requirements). The glass production data must consist of the quantity of glass, in tons, pulled per day for each furnace.

(b) The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) using one of the following methods:

- (1) On a furnace-by-furnace basis.
- (2) Facility-wide emissions averaging.

(3) System-wide emissions averaging among glass melting furnaces under common control of the same owner or operator in this Commonwealth.

(c) The owner or operator of a glass melting furnace for which the Department or the appropriate approved local air pollution control agency has granted approval to voluntarily opt into a market-based program may not demonstrate compliance on an emissions averaging basis under subsection (b). An emission reduction obtained by emissions averaging to demonstrate compliance with the emission requirements of § 129.304(a) will not be considered surplus for emission reduction credit purposes. The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) in accordance with subsection (d).

(d) Compliance with the emission requirements of § 129.304(a) shall be determined on a 30-day rolling average basis.

§ 129.310. Recordkeeping.

(a) The owner or operator of a glass melting furnace subject to this section and §§ 129.301—129.309 shall maintain records to demonstrate compliance. The records must include an operating log maintained for each glass melting furnace that includes, on a daily basis:

- (1) The total hours of operation.
- (2) The type and quantity of fuel used.
- (3) The quantity of glass pulled.

(b) The owner or operator of a glass melting furnace shall maintain records of:

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

(2) Maintenance, repairs, malfunctions, idling, start-up and shutdown.

(c) The owner or operator claiming that a glass melting furnace is exempt from the requirements of §§ 129.301—129.309 based on the furnace's potential to emit shall maintain records that clearly demonstrate to the Department or appropriate approved local air pollution control agency that the furnace is not subject to §§ 129.301—129.309.

(d) The records required under this section shall be maintained onsite for 5 years. The records shall be made available or submitted to the Department or appropriate approved local air pollution control agency upon request.

[Pa.B. Doc. No. 10-1114. Filed for public inspection June 18, 2010, 9:00 a.m.]

ENVIRONMENTAL QUALITY BOARD
[25 PA. CODE CH. 145]

Control of NOx Emissions from Cement Kilns

The Environmental Quality Board (Board) amends Chapter 145 (relating to interstate pollution transport reduction) to read as set forth in Annex A.

This order was adopted by the Board order at its meeting of March 16, 2010.

A. Effective Date

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the Pennsylvania State Implementation Plan (SIP).

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, (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, (717) 787-7060.

C. Statutory Authority

This final-form rulemaking is being adopted 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

The purpose of this final-form rulemaking is to reduce emissions of nitrogen oxides (NOx) from cement kilns 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 NOx and volatile organic compounds in the presence of light and heat. The reduction of NOx emissions will also help protect the public health from high levels of fine particulate matter (PM2.5), of which NOx is a precursor component. Fine particulates, as well as ozone, are health hazards. The reduction of NOx emissions also reduces visibility impairment and acid deposition.

When ground-level ozone is present in concentrations in excess of the Federal health-based standards, public health is adversely affected. The 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, including the reduction of NOx emissions from cement kilns, is necessary to protect the public health.

The Commonwealth, along with 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 Clean Air Act (42 U.S.C.A. § 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 the Commonwealth, 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, the Commonwealth, along with other OTC states, has met with representatives of the cement industry to discuss reductions of NOx emissions from their kilns.

In this Commonwealth there are 21 cement kilns, which in 2005 emitted 12,967 tons of NOx emissions in this Commonwealth. Of these 21 kilns in this Commonwealth, 14 of them are "long" kilns. These are older technology kilns that are less energy efficient than preheater kilns and the newest technology, precalciner kilns. The higher energy efficiencies of the preheater and precalciner kilns result in inherently lower NOx emissions than those from long wet and dry kilns, per ton of product.

Control technologies are readily available to achieve NOx emission reductions of greater than 20% from cement kilns. These technologies include: conversion to indirect firing systems with low-NOx burners with approximately 20—30% reduction; midkiln firing of whole tires in long kilns with approximately 20—40% reduction; staged combustion in precalciner kilns with approxi-

mately 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 final-form rulemaking will allow a number of cement manufacturers in this Commonwealth to develop and implement compliance strategies without the need for widespread installation of control equipment on the older technology long kilns, which will likely be replaced with more energy efficient technologies, like preheater or precalciner technologies, over time. An additional compliance option allows the purchase of Clean Air Interstate Rule (CAIR) NO_x 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 this final-form rulemaking. At its October 30, 2008, meeting, the AQTAC concurred with the Department's recommendation that the Board consider the adoption of this final-form rulemaking, with certain changes. These recommended changes to the final-form rulemaking included requiring written approval from the Department for substituted monitoring data and clarification regarding how cement kilns that begin operation after the effective date of the final-form rulemaking may determine their emissions to average. The change recommended by the AQTAC to require written approval by the Department for substituted monitoring data has been made to the final-form rulemaking. The change concerning the emissions averaging provision for new kilns was considered by the Department, and a decision was made to delete from the final-form rulemaking the emissions averaging provision for new kilns beginning operation after the effective date of the final-form rulemaking. The Department maintains that allowing new cement kilns to average their emissions with existing cement kilns to meet the regulatory obligation for the existing kilns is inconsistent with the Best Available Technology (BAT) regulatory obligation for new cement kilns, which is to control emissions to the maximum degree possible. Therefore, the Department determined that the emissions averaging provision for new cement kilns in the proposed rulemaking is inconsistent with existing regulatory obligations, and this provision has been deleted from the final-form rulemaking.

The Department also conferred with the Citizens Advisory Council concerning the final-form rulemaking on October 27, 2008. The Citizens Advisory Council concurred with the Department's recommendation that the Board consider the adoption of the final-form rulemaking.

To the extent that this final-form rulemaking is more stringent than corresponding Federal requirements, the Board determined that this final-form rulemaking is reasonably necessary to attain and maintain the ozone and PM_{2.5} National Ambient Air Quality Standards (NAAQS).

E. Summary of Comments and Responses

The proposed rulemaking published at 38 Pa.B. 1838 (April 19, 2008) included proposed §§ 129.401—129.405 (relating to emissions of NO_x from cement manufacturing). These sections have not been adopted. In this final-form rulemaking, the requirements are incorporated in Chapter 145, Subchapter C (relating to emissions of

NO_x from cement manufacturing) to amend the cement kilns requirements that were adopted at 34 Pa.B. 6509 (December 11, 2004) (§§ 145.141—145.143) and adopted at 38 Pa.B. 1705 (April 12, 2008) (§ 145.143 (relating to standard requirements)). The decision to incorporate the final-form amendments for cement kilns in Chapter 145, Subchapter C was editorial because the existing provisions in Chapter 145, Subchapter C regulate emissions of NO_x from cement kilns. When appropriate, responses to comments reflect the nature of this editorial change.

Commentators supported the goal of the proposed rulemaking to lower ozone in this Commonwealth and supported efforts in reducing NO_x and ozone-related pollutants to reduce ground-level ozone. The Board appreciates the commentators' support of this rulemaking. The final-form rulemaking is consistent with regulatory initiatives recommended by the OTC to address transport of ozone precursor emissions, including NO_x, throughout the Ozone Transport Region (OTR). These measures are reasonably necessary to attain and maintain the health-based 8-hour ozone NAAQS in this Commonwealth.

A commentator supported the facility-wide emissions averaging compliance option among kilns under common control of the same owner in this Commonwealth. The Board appreciates the commentator's support to allow facility-wide emissions averaging as a compliance option. The Department is allowing this option to provide cement kiln owners and operators with greater flexibility to demonstrate compliance with the allowable NO_x emission limits.

The commentator supported the use of CAIR NO_x Ozone Season allowances as an economical compliance alternative. The Board appreciates the commentator's support of allowing the use of CAIR NO_x Ozone Season allowances as part of the proposed rulemaking's compliance alternatives available to cement kiln owners and operators. The proposed rulemaking published at 38 Pa.B. 1838 included proposed amendments to §§ 129.401—129.405 that have been not been adopted. In this final-form rulemaking, the requirements are incorporated in Chapter 145, Subchapter C to amend the cement kilns requirements that were adopted at 34 Pa.B. 6509 under §§ 145.141—145.144 and adopted at 38 Pa.B. 1705 under § 145.143. The use of CAIR NO_x Ozone Season allowances as a compliance strategy is preserved in the final-form rulemaking under existing § 145.143(d), which provides that the owners or operators of Portland cement kilns shall surrender CAIR NO_x Ozone Season and CAIR NO_x annual allowances if the actual NO_x emissions from their kiln or kilns exceed the allowable NO_x emissions calculated for the kiln or kilns.

A commentator believed that the proposed emission limits are derived from a 60% emissions reduction (from uncontrolled levels) based on SNCR control technology that should not be applied to wet kilns. The commentator believed that NO_x limits for wet kilns should be based on a 50% reduction from uncontrolled levels because a 50% reduction from uncontrolled levels of NO_x is consistent with the EPA cement New Source Performance Standard (NSPS) rule that was proposed at 73 FR 34072 (June 16, 2008). The Board disagrees with the commentator. The Board proposed emission limits based on the OTC recommended limits. The Board is not requiring a specific reduction efficiency from the installation of an SNCR should an affected cement owner or operator decide to install an SNCR to comply with the emission limits proposed.

A commentator urged the addition of a compliance option which allows a cement company to establish a site-specific emission limit in tons of NO_x during the ozone season. The Board disagrees with the commentator. A site-specific emission limit based on a kiln's applicable emission factor and its clinker production is in effect a cap-based emission limit rather than a rate-based emission limit. The final-form rulemaking emission limits are rate-based, not cap-based, and are emission limits recommended by the OTC.

Commentators wanted the Board to provide the basis for limiting new cement kilns subject to the proposed regulation to a lower emission limit than existing kilns, as specified under proposed § 129.404(d) (relating to compliance demonstration). Prior to publishing the proposed rulemaking for public comment at 38 Pa.B. 1838, the Board reviewed a number of technical documents and concluded that new cement kilns should have a lower emission limit than existing kilns. Moreover, when the OTC recommended to the states the NO_x emission limits for cement kilns in Resolution 06-02 of the Ozone Transport Commission Concerning Coordination and Implementation of Regional Ozone Control Strategies for Certain Source Categories, adopted June 7, 2006 (OTC Resolution 06-02), two separate limits were proposed for preheater and precalciner kilns, 2.36 lb NO_x/ton clinker and 1.52 lb NO_x/ton clinker, respectively (see page 2, OTC Resolution 06-02, June 7, 2006). The Board chose to adopt the 2.36 limit for both preheater and precalciner kilns because the Commonwealth has only one existing precalciner kiln, which is of an early precalciner kiln technology that is more like a preheater kiln from an energy use perspective, and to require that new cement kilns meet the limit of 1.52 lb NO_x/ton clinker. Under the EPA's proposed NSPS rule for Portland cement kilns, the EPA found that according to the industry, all new kilns will be preheater or precalciner kilns. See 73 FR 34072, 34075. Therefore, proposing to limit new cement kilns, assumed to be precalciner, to 1.52 lb NO_x/ton clinker is in line with the NO_x limits for new cement kilns proposed by the EPA at 73 FR 34072. The annual NO_x emission limit proposed in the NSPS by the EPA is 1.50 lb/ton clinker. See 73 FR pages 34074, 34075 and 34089. The Board maintains that new kilns in this Commonwealth would be the precalciner type, and would therefore be required to meet not only the NO_x limit established in the EPA's final NSPS but also the BAT regulatory requirement for new cement kilns, which is to control emissions to the maximum degree possible. The NSPS will apply to all new cement kilns that begin operation in this Commonwealth. Therefore, the Board determined that the NO_x emission limit for new cement kilns in the proposed rulemaking is unnecessary, and this requirement has been deleted from the final-form rulemaking.

A commentator found that the Board should provide the technical basis for the allowable emission limits and explain the data used to make the determination. If the emission limits are based upon an OTC resolution, then the order to the final-form rulemaking should compare the Commonwealth's program with how other OTC states are complying with this resolution. The Board agrees. The NO_x emission limits for cement kilns in the proposed rulemaking are those recommended by the OTC. The technical basis for the emission limits are based on OTC Resolution 06-02. This resolution used data and analysis from the following report prepared for the OTC: *Identification and Evaluation of Candidate Control Measures, Final Technical Support Document*, prepared by MACTEC Federal Programs, Inc. (February 28, 2007). The Board

independently reviewed this information and concurred with the data and the decisions in the OTC resolution that recommended the emission limits. Regulations based on the OTC recommendations are being pursued by Maryland, New York and the Commonwealth. Maine has one cement kiln permitted to convert to a dry process, and this converted kiln will be subject to Best Available Control Technology, which is typically more stringent than requirements for existing sources, under the Prevention of Significant Deterioration Program. Maryland, Maine, New York and this Commonwealth are the only states in the OTR that have cement kilns. Therefore, it is not anticipated that the final-form rulemaking will place cement plants in this Commonwealth at a competitive disadvantage.

The commentator questioned if the cement emission limits proposed by the EPA at 73 FR 34072 impact the proposed rulemaking and will they result in additional changes to the Commonwealth's NO_x emission limits in the future. The NSPS proposed by the EPA at 73 FR 34072 caused a minor change to the Board's proposed rulemaking. The EPA proposed an annual NO_x emission limit of 1.50 lb/ton clinker. See 73 FR 34074, 34075 and 34089. The Board maintains that new kilns in this Commonwealth would be the precalciner type, and therefore must meet not only the NO_x limit established in the EPA's final NSPS but also the BAT regulatory requirement for new cement kilns, which is to control emissions to the maximum degree possible. Therefore, the Board determined that the NO_x emission limit for new cement kilns in the proposed rulemaking is unnecessary and this requirement has been deleted from the final-form rulemaking. Additionally, the decision was made to delete from the final-form rulemaking the emissions averaging provision for existing kilns with new kilns beginning operation after the effective date of the final-form rulemaking. The Board maintains that allowing new cement kilns to average their emissions with existing cement kilns to meet the existing kilns' regulatory obligation is inconsistent with the BAT regulatory obligation for new cement kilns, which is to control emissions to the maximum degree possible. Therefore, the Board determined that the proposed rulemaking's emissions averaging provision for new cement kilns is inconsistent with existing regulatory obligations, and this provision has also been deleted from the final-form rulemaking.

The commentator noted that while other sections of the proposed rulemaking mentioned an exact date for compliance with emission requirements, § 129.402(a) and (b) (relating to emission requirements) and § 129.404(a)(1), (c)(1), (d) and (g)(1) refer to the period of May 1 through September 30. The final-form regulations should explain the need for this distinction and how it applies to each of the relevant sections previously listed. The Board disagrees with the commentator that the final-form regulations should explain the distinction. The compliance period for determining allowable emissions of NO_x, regardless of year, is from May 1 through September 30. The requirements under proposed § 129.402(a) and (b), (which have been moved to § 145.143(b)(1) and (2) in this final-form rulemaking) and § 129.404(a)(1), (c)(1), (d) and (g)(1) (which have been both moved to new § 145.145(a)(1) (relating to compliance demonstration and reporting requirements) and retained under existing § 145.143(d), (e) and (h)(1) in this final-form rulemaking) refer to the first year of the compliance period under the regulation, and each year thereafter.

Commentators were concerned about the ability of the Board to move forward with the regulation if the United States Court of Appeals for the District of Columbia (D.C. Circuit Court) vacated the CAIR budget and allowance system for NOx emissions in this Commonwealth and other states. The decision by the D.C. Circuit Court in *North Carolina v. EPA* only addressed the EPA's CAIR (published at 70 FR 25162 (May 12, 2005)) and did not address NOx emission limits for cement kilns. On December 23, 2008, the D.C. Circuit Court decided to remand the EPA's CAIR rather than to vacate, leaving it in place until the EPA revises it. The final Federal rule, expected in 2011, must be revised to be consistent with the D.C. Circuit Court's July 11, 2008, decision in *State of North Carolina v. Environmental Protection Agency*, 531 F.3d 896 (D.C. Cir. 2008). Therefore, the Board's statutory authority to propose a rulemaking to control NOx emissions from cement kilns is not limited and the Board may move forward with a final rulemaking. On May 23, 2008, the Department submitted to the EPA a SIP revision for the Department's CAIR regulatory requirements under §§ 145.201–145.223 (relating to CAIR NOx and SO₂ trading programs), published at 38 Pa.B. 1705, that provide for a CAIR NOx Ozone Season Trading Program and a CAIR NOx Annual Trading Program. The Department's CAIR regulation also included amendments to existing § 145.143 to require the owners or operators of Portland cement kilns to surrender CAIR NOx Ozone Season and CAIR NOx annual allowances if their actual NOx emissions exceed their allowable NOx emissions. The EPA approved the Department's CAIR regulation as a SIP revision published at 74 FR 65446 (December 10, 2009).

A commentator suggested that, based on the CAIR vacatur, if the regulation requires substantial changes, to consider submitting an Advance Notice of Final Rulemaking or publishing the changes as a new proposed rulemaking. This final-form rulemaking will not require substantial changes as a result of the initial vacatur of the EPA's CAIR on July 11, 2008. On December 23, 2008, the D.C. Circuit Court decided to remand the EPA's CAIR rather than to vacate, leaving it in place until the EPA revises it. The final Federal rule, expected in 2011, must be revised to be consistent with the D.C. Circuit Court's July 11, 2008, decision in *State of North Carolina v. Environmental Protection Agency*, 531 F.3d 896 (D.C. Cir. 2008). On May 23, 2008, the Department submitted to the EPA a SIP revision for the Department's CAIR regulation, including requirements under §§ 145.143 and 145.201–145.223, published at 38 Pa.B. 1705, effective April 12, 2008, that provides for a CAIR NOx Ozone Season Trading Program and a CAIR NOx Annual Trading Program. The EPA approved the Department's CAIR regulation as a SIP revision published at 74 FR 65446, effective December 10, 2009. The Board believes that the approval of the CAIR NOx allowance provisions as a revision to the Commonwealth's SIP will preserve the requirement proposed under § 129.404(c) published at 38 Pa.B. 1838 for the surrender of CAIR NOx allowances if the actual NOx emissions from a kiln exceed its allowable NOx emissions.

Commentators supported the concept of NOx trading and favor removing the requirement for being "under common control of the same owner or operator in this Commonwealth" from the system-wide averaging section of the rulemaking. The Board disagrees. The option to demonstrate compliance with the emission limits by averaging the NOx emissions of several cement kilns under the common control of the same owner or operator

in this Commonwealth provides flexibility to the cement kiln owners and operators in this Commonwealth with more than one facility. Allowing multiple owners and operators of cement kilns in this Commonwealth to average their emissions in concert with each other to demonstrate compliance would essentially provide them the larger framework of an emissions trading program, which is beyond the scope of the final-form rulemaking provision to provide them an emissions averaging option.

A commentator believed that the use of different types of control technologies to achieve NOx emissions greater than 20% implies that facilities can use these technologies without the need for a permitting process. It is not the intent of the Board to imply that there is not a need for a permitting process for the use of NOx emission control technologies. The permitting requirements for the installation of a control technology will be determined in accordance with Chapter 127, Subchapter B (relating to plan approval requirements). The Department has several permit streamlining procedures in place, and plan approval applications are always acted on by the Department as expeditiously as possible.

A commentator thought that the permitting process for installing the NOx control technologies to achieve the emission results of the proposed rulemaking should be streamlined. The authorizations should be issued within 30 days after an application is submitted. The Board disagrees. The permitting requirements for the installation of a control technology will be determined in accordance with Chapter 127, Subchapter B. The Department has several permit streamlining procedures in place, and plan approval applications are always acted on by the Department as expeditiously as possible.

Commentators thought the proposed rulemaking contained punitive and unreasonable data substitution provisions for invalid data by substituting missing data with data calculated using the potential emission rate for the kiln, or with the highest valid 1-hour emission value. The Board recognizes that substituted data should be representative of the actual emissions from the source during the time frame in question and not punitive in nature. The data substitution language in the final-form regulation has been modified to ensure that representative data is substituted while maintaining consistency with the procedures outlined in the Department's *Continuous Source Monitoring Manual* (DEP 274-0300-001).

A commentator believed that kilns subject to the proposed rulemaking will be subject to Title V reporting and compliance certification requirements, and additional reporting requirements are unnecessary and only add to the administrative burden. The Board disagrees and does not believe that maintaining records of daily clinker production will present a significant inconvenience to an owner or operator. Daily records may be needed to enable the Department to verify the relationship between NOx emissions recorded by a continuous emission monitoring system (CEMS), and clinker produced during the compliance period of May 1 through September 30 of each year. The Board maintains that records sufficiently precise to quantify clinker produced by each kiln during that period are necessary to enable owners and operators to demonstrate compliance and determine allowances for surrender.

A commentator commented on whether it is feasible for a cement kiln to report the emission data to the Department by October 31, 2009, and then be required to surrender their NOx allowances 1 day later, which is November 1, 2009. The Board disagrees with the commentator. The requirement to report information to the

Department by October 31 of every compliance year is consistent with reporting requirements in the current regulation for cement kilns in Chapter 145, Subchapter C. The affected owners and operators of cement kilns will know prior to October 31 of every compliance year whether they are required to surrender NOx allowances, because they will have the entire month of October to calculate their emissions for the previous May 1 through September 30 compliance period and determine if and how many allowances they need to surrender by or on the succeeding November 1 to comply with the regulation.

The commentator commented that the proposed regulation required cement kiln operators to report various information to the Department "by October 31, 2009," while other sections of the regulations require compliance with emission limits by September 30, 2009, and questioned if owners or operators of cement plants would be able to collect and deliver the reports within a month. The Board disagrees with the commentator. The requirement to report information to the Department by October 31 of each year is consistent with reporting requirements in the current regulation for cement kilns found under Chapter 145, Subchapter C.

The commentator commented that the proposed regulation required cement kiln operators to submit a report to the Department "in a format approved, in writing, by the Department," and stated that this phrase is vague, and the final-form regulation should provide more detail on the type of format. The Board disagrees with the commentator. The requirement to submit a report to the Department in a format approved, in writing, by the Department, is a standard requirement. This requirement is found in many Board-approved rulemakings, and neither the Department nor the regulated sources have had problems understanding or complying with this requirement.

The commentator asked whether the cement kilns in this Commonwealth would be able to meet the May 1, 2009, compliance deadline. Due to the remand of the EPA's CAIR, and the Commonwealth's lengthy rule-making process, the final-form regulation has an effective compliance date of May 1, 2011, for owners and operators of Portland cement kilns to meet the revised NOx emission limits. The date in the final-form regulation by which the CEMS must be installed, operating and maintained is April 15, 2011.

The commentator commented that the difference between § 129.404(b) and (c) was unclear and stated that the final-form regulation should clarify what circumstances necessitate compliance with § 129.404(c). The Board believes that the final-form regulation clearly specifies what circumstances would necessitate compliance with these subsections. Proposed § 129.404(c) has been deleted in this final-form rulemaking and the requirements retained under existing § 145.143(d). Proposed § 129.404(b) has been deleted in this final-form rulemaking and the same requirements are specified in this final-form rulemaking under new § 145.145(b) and in the definition of "system-wide" under § 145.142 (relating to definitions). New § 145.145(b) lists three options to demonstrate compliance with the allowable NOx emission limits. Cement kiln owners or operators shall choose one compliance option from the three listed to use as the basis for determining the amount of allowable and actual NOx emissions from their kiln or kilns. Existing § 145.143(d) lists the requirements that a cement kiln owner or operator shall follow to surrender NOx allowances if the owner or operator determines, after calculat-

ing the amount of actual NOx emissions in accordance with the requirements under § 145.144 (relating to compliance determination) and § 145.145, that the actual NOx emissions from the kiln or kilns exceed the amount of allowable NOx emissions for the kiln or kilns, determined in accordance with the requirements under § 145.143(b).

The commentator noted that § 129.404(b) referred to "a Portland cement kiln or multiple Portland cement kilns," and subsection (c) only references "a Portland cement kiln," and questions if the latter subsection should also apply to multiple kilns. The final-form rulemaking has been incorporated as amendments to the existing cement kilns regulation under Chapter 145, Subchapter C. The Board believes that the existing provisions of Chapter 145, Subchapter C and the final-form amendments to Chapter 145, Subchapter C accurately reflect that the final-form rulemaking applies to a Portland cement kiln or multiple kilns.

The commentator found that § 129.404(e) required cement kiln operators to surrender the required CAIR NOx ozone allowances by "November 1, 2009, and each year thereafter." Subsection (c) included this surrender as a possible method of compliance. The final-form regulation should explain when each of these subsections would apply. The Board believes that the final-form regulation clearly specifies when the requirements are applicable. Proposed § 129.404(c) has been deleted in this final-form rulemaking and the requirements are retained under existing § 145.143(d). Proposed § 129.404(e) has been deleted in this final-form rulemaking and the requirements are retained under existing § 145.143(f). Existing § 145.143(d) listed the requirements that a cement kiln owner or operator shall follow to surrender NOx allowances if their actual NOx emissions exceed their allowable NOx emissions. Existing § 145.143(f) specified the date by when a cement kiln owner or operator shall surrender the NOx allowances, if needed, to comply with § 145.143(d).

The commentator noted that § 129.404(g)(1) explained how to determine the number of days of violation if the facility has excess emissions for the period May 1 through September 30, and states that "each day in that period . . . 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." The Board should explain what circumstances would warrant consideration. The Board disagrees with the commentator. The Board maintains that it is the responsibility of the affected cement kiln owner to demonstrate to the satisfaction of the Department what circumstance or circumstances would warrant consideration of a lesser number of days in violation. The requirements that were proposed under § 129.404(g)(1) and deleted in this final-form rulemaking are consistent with the requirements specified under existing § 145.143(h)(1) for determining the number of days of violation in the current regulation for cement kilns in Chapter 145, Subchapter C. In this final-form rulemaking, these requirements are retained under existing § 145.143(h)(1).

The commentator stated the program referenced in the preamble to the proposed rulemaking, the Regional Compliance Assistance Program (Program), did not appear to be defined by regulation or statute, and questioned how cement kiln owners and operators would access the Program. The Board agrees with the commentator that the term "Regional Compliance Assistance Program" is not defined by regulation or statute. The term refers to the Department's regional or "field," staff who regularly

assist their respective facilities in understanding and complying with applicable Department regulations.

The commentator commented on the definition of “CEMS—Continuous Emission Monitoring System” as it relates to an earlier “original” definition that references Chapter 127, Subchapter E (relating to new source review) and the proposed regulation’s reference to standards in Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources), and suggests the Department explain why a different chapter of 25 Pa. Code (relating to environmental protection) now applies to the proposed definition. The Board agrees with the commentator. The intent of the amendment of the definition of “CEMS—Continuous emissions monitoring system” in § 121.1 (relating to definitions) of the proposed rulemaking is for the definition to apply more broadly to the entire air quality regulatory program. However, subsequent to the close of the public comment period for the proposed cement kilns rulemaking, the Department proposed a revised definition of “CEMS—Continuous emissions monitoring system” in § 121.1 in a proposed rulemaking as part of the amendments to the air quality fee schedules. See 39 Pa.B. 6049 (October 17, 2009). Therefore, the amendment of the definition of “CEMS—Continuous emissions monitoring system” in § 121.1 in the proposed cement kilns rulemaking was deleted in this final-form rulemaking, and the existing definition of “CEMS—Continuous Emission Monitoring System” in § 145.142 that applies to cement kilns has been retained in the final-form rulemaking. The existing definition of “CEMS—Continuous Emission Monitoring System” in § 145.142 ensures that the monitoring equipment complies with the requirements under Chapter 139 (relating to sampling and testing).

The commentator said that the final-form regulation should include a definition for “invalidated data.” In addition, the Board also should explain the difference between an “invalid data period” and an “alternative reporting period” as mentioned in § 129.403(b)(2)(ii) (relating to compliance determination). The Board disagrees with the commentator that the final-form regulation should include a definition for “invalidated data.” Conditions that render data invalid, and procedures for substituting the invalid data with valid data, are defined throughout the *Continuous Source Monitoring Manual* (DEP 274-0300-001). Owners or operators of each Portland cement kiln subject to this rule are familiar with those provisions, since they already operate Department-certified CEMS. An “alternative reporting period” is not specifically defined, since it is provided under proposed § 129.403(b)(2)(ii) (new § 145.144(b)(2)(ii) in this final-form rulemaking) as a means for an owner or operator to propose a unique alternative for the Department’s consideration.

The commentator noted that § 129.403(b)(1) referred to the “potential emission rate” for the cement kiln, but does not explain how this rate is determined. The final-form regulation should define this term. The Board disagrees. Proposed § 129.403(b)(1) (new § 145.144(b) in this final-form rulemaking) has been modified to ensure that representative data is substituted and to maintain consistency with the procedures outlined in the *Continuous Source Monitoring Manual*. The amendments made to this section necessitated deleting the provision for the substitution of invalidated data with the potential emission rate for the kiln. Therefore, a definition of “potential emission rate” is not necessary.

The commentator said that § 129.403(c) stated that Portland cement kiln operators shall submit quarterly reports of CEMS monitoring data in “pounds of NO_x emitted per hour,” and thinks that this data should refer to “pounds of NO_x per ton of clinker.” The Board disagrees with the commentator. The CEMS currently operated by the cement kiln owners and operators monitor NO_x emissions. A CEMS cannot measure tons of clinker produced, since by definition, a CEMS can only monitor emissions per unit of time.

The commentator found that § 129.404(c)(1) referred to “CAIR NO_x Ozone Season allowance,” as defined in § 145.202 (relating to definitions), but this section does not include a definition for this term. The final-form regulation should provide the appropriate cross-reference in this subsection. The Board agrees with the commentator. The final-form rulemaking, in existing § 145.143(d), includes the appropriate *Code of Federal Regulations* reference for the definitions of “CAIR NO_x Ozone Season allowance” and “CAIR NO_x allowance.”

The commentator found that § 129.405(c) (relating to recordkeeping) requires cement kiln owners or operators to maintain records for 5 years, and wondered how the Board determined this was an appropriate time frame. Requiring regulated facilities to maintain records for 5 years is a standard requirement. This requirement is found in many Board-approved regulations, including §§ 127.11(b)(2) and 139.101(5) (relating to plan approval requirements; and general requirements). Regulated sources have not had problems complying with this requirement.

A commentator stated its kilns are long dry-process cement kilns and are subject to the allowable emission limit of 3.44 lb NO_x/ton clinker. Their kilns are not preheater kilns because the systems do not contain a series or multiple cyclones as defined by the EPA in its 1993 NO_x Alternative Control Technologies Document (which was updated in September 2000). The commentator requested the Department establish its new NO_x limit during the ozone season at 3.44 lbs/ton clinker starting with the 2009 Ozone Season. The Board disagrees with the commentator. The comment is an implementation issue. The commentator shall have discussions with the Department prior to the effective compliance date of the final-form regulation on how the final-form rulemaking will be implemented and complied with by their facility.

A commentator stated that a provision to the proposed regulation should be added to indicate that this rulemaking should supersede the case-by-case reasonably available control technology (RACT) determinations for cement kilns in this Commonwealth. The Board disagrees with the commentator. If the final-form rulemaking requirements are more stringent than a RACT requirement previously established on a case-by-case basis, complying with the final-form regulation’s more stringent provisions would ensure compliance with the other RACT requirements.

A commentator stated that the proposal required owners or operators of cement kilns to “install, operate and maintain CEMS for NO_x emissions” by May 1, 2009. The commentator asked what the costs will be for owners and operators as a result of requiring this device to be installed on kilns in less than 1 year. The owners and operators of the cement kilns in this Commonwealth who are affected by the proposed rulemaking currently have a CEMS as part of the existing cement regulation requirement that limits NO_x emissions from cement kilns during the ozone season to 6.0 lbs/ton clinker (see § 145.143(b)

published at 34 Pa.B. 6509)). The existing cement regulation published at 34 Pa.B. 6509 was effective December 11, 2004, with a compliance date of May 1, 2005 (see § 145.141 (relating to applicability)). Therefore, there are no costs to the owners and operators of affected cement kilns to install a CEMS. In the final-form rulemaking, the compliance date under new § 145.144(a) by when the CEMS shall be installed, operating and maintained is April 15, 2011, for the owner or operator of a Portland cement kiln subject to new § 145.143(b)(2). This date ensures that the CEMS equipment is running properly before May 1, 2011, which is the first day of the first compliance period for affected owners and operators for the determination of allowable emissions for Portland cement kilns using the new emission limits specified under final-form § 145.143(b)(2).

F. Summary of Final-Form Rulemaking

The final-form rulemaking deleted the proposed amendments to the applicability date under § 145.141. The existing regulation containing NOx emission limits for cement kilns in Chapter 145, Subchapter C will remain in effect through April 30, 2011. The compliance date for the final-form amendments to Chapter 145, Subchapter C is May 1, 2011. The compliance date in the final-form rulemaking by which the CEMS shall be installed, operating and maintained is April 15, 2011.

The following regulatory language regarding new terms and definitions in § 145.142 was published in the proposed rulemaking as amendments to § 121.1 to support the proposed amendments to Chapter 129 (relating to standards for sources). This final-form rulemaking removes those terms and definitions from § 121.1 and places them in § 145.142 to support the final-form amendments to Chapter 145, Subchapter C. Subsequent to the close of the public comment period for the cement kilns proposed rulemaking, the Board proposed for public comment a revised definition of the term “CEMS—Continuous emissions monitoring system” under § 121.1 in a proposed rulemaking as part of the amendments to the air quality fee schedules (see 39 Pa.B. 6049). Therefore, an amendment of the definition of “CEMS—Continuous emissions monitoring system” in § 121.1 in the cement kilns proposed rulemaking was deleted, and the existing definition of the term “CEMS—Continuous Emission Monitoring System” in § 145.142 that applies to cement kilns has been retained in the final-form rulemaking.

The final-form rulemaking adds definitions for the following new terms to § 145.142 to support the substantive provisions in §§ 145.141 and 145.43—145.146: “calcine,” “long dry-process cement kiln,” “long wet-process cement kiln,” “precalciner cement kiln,” “preheater cement kiln” and “system-wide.”

Substantive changes were not made to the definitions of the terms between proposed and final-form rulemaking.

A definition for “system-wide” was added between proposed and final-form rulemaking.

The following regulatory language regarding standard requirements under § 145.143(b)(1) and (2) was published at proposed rulemaking under § 129.402(a) and (b). This final-form rulemaking moves the substantive language from § 129.402(a) and (b) to § 145.143(b)(1) and (2).

The final-form § 145.143(b) now provides that the owner or operator of a Portland cement kiln may not operate that kiln in a manner that results in NOx emissions in excess of its allowable emissions. Section

145.143(b)(2) requires that the owner or operator of a Portland cement kiln determine allowable emissions of NOx by multiplying the tons of clinker produced by the Portland cement kiln for the period from May 1 through September 30, 2011, and for each year thereafter by: 3.88 pounds of NOx per ton of clinker produced for long wet-process cement kilns; 3.44 pounds of NOx 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.

Minor clarifying changes are made to § 145.143(c).

The following regulatory language regarding standard requirements in § 145.143(d) was published in the proposed rulemaking under § 129.404(c)(1). This final-form rulemaking retains unchanged the substantive language in § 145.143(d).

Final-form § 145.143(d) is unchanged and provides that the owner or operator of a Portland cement kiln subject to this section shall surrender to the Department one CAIR NOx allowance and one CAIR NOx Ozone Season allowance as defined in 40 CFR 96.102 and 96.302 (relating to definitions), for each ton of NOx by which the combined actual emissions exceed the allowable emissions of the Portland cement kilns subject to this section at a facility from May 1 through September 30.

The following regulatory language regarding compliance determination in § 145.144 was published in the proposed rulemaking as § 129.403. This final-form rulemaking moves the regulatory language from § 129.403 to § 145.144.

Final-form § 145.144 requires, among other things, that by April 15, 2011, 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.

The Board modified the compliance date under this section between proposed and final-form rulemaking. The new compliance date under this section is now 2011, and not 2009, as proposed. CEMS must be installed, operated and maintained by April 15, 2011, rather than May 1, 2009, as originally proposed. This change was made to ensure that the CEMS is operational before the compliance date of May 1, 2011, which is the first day of the first compliance period for affected owners and operators for the determination of allowable emissions for the Portland cement kilns using the new emission limits specified under § 145.143(b)(2). In addition, the Board changed certain data substitution requirements in subsection (b). For example, subsection (b) now provides that data invalidated shall be substituted either by the highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter for an invalid data period during that quarter or an alternative method of data substitution as approved by the Department in writing.

Additionally under this section, 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 NOx emitted per hour, in a format approved by the Department, which is in compliance with Chapter 139, Subchapter C. Also the CEMS for NOx installed under the requirements of this section must meet the minimum data availability requirements in Chapter 139, Subchapter C.

The following regulatory language regarding compliance demonstration and reporting requirements in § 145.145 was published in the proposed rulemaking as § 129.404. This final-form rulemaking moves the regulatory language from § 129.404 to § 145.145.

Final-form § 145.145 provides, among other things, that by October 31, 2011, and each year thereafter, the owner or operator of a Portland cement kiln shall report certain information in writing to the Department, in a format approved 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 § 145.143 on either a kiln-by-kiln basis, a facility-wide basis or a system-wide basis among Portland cement kilns under the common control of the same owner or operator in this Commonwealth.

The Board decided to delete the averaging provision for new cement kilns under proposed § 129.404(d), which would have been placed under § 145.145. Under § 127.1 (relating to purpose), new cement kilns, like all new sources, are required to control emissions to the maximum extent, consistent with BAT as determined by the Department at the date of issuance of the plan approval for the new source. The term "best available technology" is defined in § 121.1 as equipment, devices, methods or techniques as determined by the Department which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available. To allow new sources to average with existing sources to meet the regulatory obligations of the existing sources would be inconsistent with the intent of the BAT regulatory obligation of the new sources, which is to control emissions to the maximum degree possible. Consequently, the Board believes that the proposed averaging section is inconsistent with existing regulatory obligations, and this provision has been deleted from the final-form rulemaking.

The Board modified the compliance date under this section between proposed and final-form rulemaking. The new compliance date under this section is now October 31, 2011, and not October 31, 2009, as proposed.

The following regulatory language regarding record keeping in § 145.146 (relating to recordkeeping) was published at proposed rulemaking as § 129.405. This final-form rulemaking moves the regulatory language from § 129.405 to § 145.146.

Final-form § 145.146 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, and maintain records of certain other information. The records required under this section shall be maintained for 5 years, be kept onsite and be made available to the Department upon request.

G. *Benefits, Costs and Compliance*

Benefits

Overall, the citizens of this Commonwealth will benefit from this final-form rulemaking because it will result in improved air quality by reducing ozone precursor emissions and will encourage new technologies and practices, which will reduce emissions.

The reductions in NOx emissions from Portland cement kilns will also help protect the public health and welfare from high levels of fine particulate matter (PM_{2.5}) pollution and the formation of regional haze, of which NOx is a precursor component. Reductions in NOx emissions also reduces visibility impairment, soiling and materials damage, and acid deposition.

Compliance Costs

The final-form rulemaking includes emissions averaging and use of CAIR NOx Ozone Season Trading Program Allowances and CAIR NOx Annual Trading Program 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 allowances, to demonstrate compliance with the NOx emission limits. Based on 2005 ozone season emissions, implementation of the final-form rulemaking is estimated to result in a reduction of 1,300 tons of NOx. Based on a 2009 average CAIR NOx Ozone Season Trading Program and CAIR NOx Annual Trading Program allowance price of \$500, the cost of 1,300 NOx allowances would be \$650,000 per year.

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 compliance assistance program.

Paperwork Requirements

The final-form rulemaking will not significantly increase the paperwork that is already generated during the normal course of business operations.

H. *Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) 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 final-form rulemaking provides the owners and operators of cement kilns in this Commonwealth the opportunity to improve the energy efficiency at their operations, which will result in lower NOx emissions.

I. *Sunset Review*

This final-form 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.

J. *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 the notice of proposed rulemaking, published at 38 Pa.B. 1838, to the Independent Regulatory Review Commission (IRRC) and to the House and Senate Environmental Resources and Energy Committees (Committees) for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing

the final-form rulemaking, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P.S. § 745.5a(j.2)), on May 12, 2010, the final-form rulemaking was deemed approved by the Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on May 13, 2010, and approved the final-form rulemaking.

K. Findings

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at 1 Pa. Code §§ 7.1 and 7.2.

(2) At least a 60-day public comment period was provided as required by law, and all comments were considered.

(3) These regulations do not enlarge the purpose of the proposal published at 38 Pa.B. 1838.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

(5) These regulations are reasonably necessary to attain and maintain the ozone and PM_{2.5} NAAQS.

L. Order

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 145, are amended by amending §§ 145.142 and 145.143 and by adding §§ 145.144—145.146 to read as set forth in Annex A.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the Committees as required under the Regulatory Review Act (71 P.S. §§ 745.1—745.12).

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This final-form rulemaking will be submitted to the EPA as an amendment to the Pennsylvania SIP.

(f) This order shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

JOHN HANGER,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission relating to this document, see 40 Pa.B. 2838 (May 29, 2010).)

Fiscal Note: Fiscal Note 7-419 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 145. INTERSTATE POLLUTION TRANSPORT REDUCTION

Subchapter C. EMISSIONS OF NO_x FROM CEMENT MANUFACTURING

§ 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 or 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.

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 any 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.

System-wide—Two or more Portland cement kilns under the common control of the same owner or operator, or multiple owners, in this Commonwealth.

§ 145.143. Standard requirements.

(a) By October 31, 2005, and each year thereafter, the owner or operator of a Portland cement kiln shall calculate the difference between the actual emissions from the unit during the period from May 1 through September 30 and the allowable emissions for that period.

(b) The owner or operator of a Portland cement kiln may not operate a Portland cement kiln in a manner that results in NOx emissions in excess of its allowable emissions, except as otherwise specified in this section.

(1) Beginning May 1 through September 30, 2005, and each year thereafter, the owner or operator shall determine allowable emissions by multiplying the tons of clinker produced by the Portland cement kiln for the period by 6 pounds per ton of clinker produced.

(2) Beginning May 1 through September 30, 2011, and each year thereafter, the owner or operator of a Portland cement kiln shall determine allowable emissions of NOx by multiplying the tons of clinker produced by the Portland cement kiln for the period by:

(i) 3.88 pounds of NOx per ton of clinker produced for long wet-process cement kilns.

(ii) 3.44 pounds of NOx per ton of clinker produced for long dry-process cement kilns.

(iii) 2.36 pounds of NOx per ton of clinker produced for:

(A) Preheater cement kilns.

(B) Precalciner cement kilns.

(c) The owner or operator of a Portland cement kiln subject to subsection (b)(1) shall install and operate a CEMS, and shall report CEMS emissions data, in accordance with the CEMS requirements of either Chapter 139 or 145 (relating to sampling and testing; and interstate pollution transport reduction) and calculate actual emissions using the CEMS data reported to the Department. Any data invalidated under Chapter 139 shall be substituted with data calculated using the potential emission rate for the unit or, if approved by the Department in writing, an alternative amount of emissions that is more representative of actual emissions that occurred during the period of invalid data.

(d) The owner or operator of a Portland cement kiln subject to this section shall surrender to the Department one CAIR NOx allowance and one CAIR NOx Ozone Season allowance, as defined in 40 CFR 96.102 and 96.302 (relating to definitions), for each ton of NOx by which the combined actual emissions exceed the allowable emissions of the Portland cement kilns subject to this section at a facility from May 1 through September 30. The surrendered allowances shall be of current year vintage. For the 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.

(e) 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 subject to this section at the facility during the same period, the owner or operator may deduct the difference or any portion of the difference from the amount of actual emissions from Portland cement kilns at the owner or operator's other facilities located in this Commonwealth for that period.

(f) By November 1, 2005, and each year thereafter, an owner or operator subject to this subchapter shall surrender the required NOx allowances to the Department's designated NOx allowance tracking system account, as defined in § 121.1 (relating to definitions), and shall provide in writing to the Department, the following:

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

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

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

(h) The surrender of NOx allowances under subsection (g) 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.

§ 145.144. Compliance determination.

(a) By April 15, 2011, the owner or operator of a Portland cement kiln subject to § 145.143(b)(2) (relating to standard requirements) shall:

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

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

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

(b) If approved by the Department in writing, data invalidated under Chapter 139, Subchapter C, shall be substituted with one of the following:

(1) The highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter for an invalid data period during that quarter.

(2) If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department:

(i) The highest valid 1-hour emission value that occurred under similar source operating conditions during the most recent quarter for which valid data were collected.

(ii) The highest valid 1-hour emission value that occurred under similar source operating conditions during an alternative reporting period.

(3) An alternative method of data substitution.

(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 NOx emitted per hour, in a format approved by the Department, which is in compliance with Chapter 139, Subchapter C.

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

§ 145.145. Compliance demonstration and reporting requirements.

(a) By October 31, 2011, and each year thereafter, the owner or operator of a Portland cement kiln subject to

§ 145.143(b)(2) (relating to standard requirements) shall submit a written report to the Department, in a format approved by the Department, which includes the following:

(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 § 145.143(b)(2). The clinker production data must consist of the quantity of clinker, in tons, produced per day for each kiln.

(b) The owner or operator of a Portland cement kiln shall demonstrate compliance with the standard requirements in § 145.143(b)(2) on one of the following:

- (1) A kiln-by-kiln basis.
- (2) A facility-wide basis.
- (3) A system-wide basis.

§ 145.146. Recordkeeping.

(a) The owner or operator of a Portland cement kiln shall maintain an operating log for each Portland cement kiln. The operating log must 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 must 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 5 years. The records shall be made available to the Department upon request.

[Pa.B. Doc. No. 10-1115. Filed for public inspection June 18, 2010, 9:00 a.m.]

governed by the assessment process in the act of October 18, 2006 (P. L. 1149, No. 119) (Act 119). New § 151.14 reflects the replacement of the Corporate Tax settlement process with an assessment process.

Explanation of Regulatory Requirements

This final-form rulemaking provides clear instructions for corporate taxpayers filing amended reports. The Department adds § 151.14 to outline the provisions for filing Corporate Tax amended reports. Examples in Chapter 153 (relating to corporate net income tax) have been amended with updated language. Obsolete language has been replaced throughout § 153.54. Specifically, obsolete language was removed in § 153.54(b)(1) regarding the Report of Change Form. Section 153.54(g) has been expanded to explain: (1) Corporate Net Income Tax settled prior to January 1, 2008; and (2) Corporate Net Income Tax not settled prior to January 1, 2008. In addition, an “applicability” section is added in § 153.66 to clarify that §§ 153.61—153.65 apply to taxes settled prior to January 1, 2008.

In the final-form rulemaking, § 153.54(a) has been amended to remove the obsolete term “corrected report” and replace it with “Report of Change.” Also, a new sentence has been added to clarify the Department’s long-standing policy regarding changes in Federal losses. In addition, examples have been added to § 153.54(h) to address changes initiated by the taxpayer.

Affected Parties

The Commonwealth’s corporate taxpayers and tax practitioners may be affected by this final-form rulemaking. The final-form rulemaking adds a fourth leg to what the Department has already accomplished for the education of the tax community on the changes to Amended Reports under Act 119. The Department has done the following: (1) added detailed language in the Instruction Booklet for Form RCT 101; (2) published a notice on the Department’s web site entitled “Notice to Pennsylvania Taxpayers Regarding Amended Corporate Tax Reports;” and (3) participated in numerous seminars in the tax community on this subject.

Comment and Response Summary

Notice of proposed rulemaking was published at 39 Pa.B. 1207 (March 7, 2009). The proposed rulemaking is being adopted with amendments to read as set forth in Annex A.

The Department prepared a comment and response document that is available to interested parties by contacting Mary R. Sprunk, Office of Chief Counsel, Department of Revenue, P. O. Box 281061, Harrisburg, PA 17128-1061.

The Department received one comment from the public during the public comment period. No comments were received from either the House Finance Committee or the Senate Finance Committee (Committees). The Independent Regulatory Review Commission (IRRC) submitted comments on the proposed rulemaking. The following is a summary of the Department’s responses to the key issues referenced in the comments.

The Department added clarifying language in § 151.14(b) and (c) to address comments requesting time frames and examples of changes for the amended report process.

The Department added clarifying language in § 151.14(e) for taxpayers to understand that the Depart-

Title 61—REVENUE

DEPARTMENT OF REVENUE

[61 PA. CODE CHS. 151 AND 153]

Amended Report—Corporation Taxes

The Department of Revenue (Department), under section 6 of The Fiscal Code (72 P. S. § 6), amends § 153.54 (relating to changes made by Federal government) and adds §§ 151.14 and 153.66 (relating to amended report; and applicability) to read as set forth in Annex A.

Purpose of this Final-Form Rulemaking

This final-form rulemaking provides a procedure for the filing of amended Corporate Tax reports for tax reports

ment's failure to revise the tax due the Commonwealth is not an appealable action and will not change existing appeal rights.

New § 153.54(h) has added a "Report of Change" provision to address amended Federal Income Tax returns, which include any document allowed or authorized by the IRS for a taxpayer to adjust their Federal taxable income. Examples of "proof of acceptance by the Federal government" have been added to § 153.54(h).

Fiscal Impact

The Department has determined that the final-form rulemaking will have minimal fiscal impact on the Commonwealth.

Paperwork

The final-form rulemaking will not create additional paperwork for the public or the Commonwealth.

Effectiveness/Sunset Date

The final-form rulemaking will become effective upon final publication in the *Pennsylvania Bulletin*. The final-form rulemaking is scheduled for review within 5 years of publication. A sunset date has not been assigned.

Contact Person

The contact person for an explanation of the final-form rulemaking is Mary R. Sprunk, Office of Chief Counsel, Department of Revenue, Dept. 281061, Harrisburg, PA 17128-1061.

Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on February 20, 2009, the Department submitted a copy of the notice of proposed rulemaking, published at 39 Pa.B. 1207, to IRRC and to the Committees on Finance for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on May 12, 2010, the final-form rulemaking was deemed approved by the Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on May 13, 2010, and approved the final-form rulemaking.

Findings

The Department finds that:

(1) Public notice of intention to amend the regulations has been given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and the regulations thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) The amendments are necessary and appropriate for the administration and enforcement of the authorizing statute.

Order

The Department, acting under the authorizing statute, orders that:

(a) The regulations of the Department, 61 Pa. Code Chapters 151 and 153, are amended by adding §§ 151.14 and 153.66 and by amending § 153.54 to read as set forth in Annex A.

(b) The Secretary of the Department shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for approval as to form and legality as required by law.

(c) The Secretary of the Department shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(d) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

C. DANIEL HASSELL,
Secretary

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission relating to this document, see 40 Pa.B. 2838 (May 29, 2010).)

Fiscal Note: Fiscal Note 15-445 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 61. REVENUE

PART I. DEPARTMENT OF REVENUE

Subpart B. GENERAL FUND REVENUES

ARTICLE VI. CORPORATION TAXES

CHAPTER 151. GENERAL PROVISIONS

REPORTING

§ 151.14. Amended report.

(a) *Applicability.* This section applies to taxes imposed under Articles IV, VI, VII, VIII, IX, XI and XV of the Tax Reform Code of 1971 and not settled prior to January 1, 2008, along with the following:

(1) Corporate Loans Tax imposed under sections 19–24 of the State Personal Property Tax Act (72 P. S. §§ 3250-10–3250-15).

(2) Co-operative Agricultural Corporate Net Income Tax Act imposed under the Co-operative Agricultural Association Corporate Net Income Tax (72 P. S. §§ 3420-21–3420-30).

(3) The electric co-op corporation membership fee imposed under 15 Pa.C.S. § 7333 (relating to license fee; exemption from excise taxes).

(4) Gross Receipts Tax on private bankers imposed under section 1 of the act of May 16, 1861 (P. L. 708, No. 660) (72 P. S. § 2221).

(b) *General.*

(1) An amended report may be filed by a taxpayer, on a form prescribed by the Department under oath or affirmation of an authorized officer, within 3 years after filing of the original report. An amended report may be filed for the purpose of bringing to the attention of the Department a correction to the original report or to provide additional information which the taxpayer requests the Department to consider.

(2) The Department will only consider additional information if it is submitted with an amended report. The taxpayer may submit any information it believes is relevant to the determination of its tax. The filing of an amended report is not a new report.

(3) The Department will not accept an amended report that challenges the Department's policy, its interpretation of the statutes or the constitutionality of the Commonwealth's statutes. Any challenges of the Department's policy, its interpretation of the statutes or the constitutionality of the Commonwealth's statutes shall be made by filing a petition for reassessment or a petition for refund.

(c) *Prerequisite.* An amended report will not be considered by the Department unless the taxpayer consents in writing, on a form prescribed by the Department, to the extension of the assessment period for the tax year to 1 year from the date of the filing of the amended report or 3 years from the filing of the original report, whichever period last expires. See section 407.4 of the TRC (72 P. S. § 7407.4). In addition, the taxpayer is required to maintain records until the end of the extended assessment period.

(d) *Petition rights.*

(1) An amended report does not replace the filing of a Petition for Reassessment or a Petition for Refund.

(2) The filing of an amended report does not extend the time limits for a taxpayer to file a Petition for Reassessment or a Petition for Refund.

(e) *Review of amended report.*

(1) The Department is not obligated to revise the tax due the Commonwealth upon review of an amended report. Its failure to revise the tax due the Commonwealth is not an appealable action and will not change any existing appeal rights of the taxpayer.

(2) If the Department determines an adjustment of the taxpayer's account is appropriate, it will adjust the corporation's tax on the Department's records to conform to the revised tax as determined and will credit the taxpayer's account to the extent of any overpayment resulting from the adjustment or assess the taxpayer's unpaid tax and unreported liability for tax, interest or penalty due the Commonwealth, whichever is applicable.

(f) *Amended report filed when tax liability is under appeal.*

(1) An amended report involving issues under appeal will be forwarded to the appropriate administrative appeal board or to the Office of the Attorney General, to be included in the appeal.

(2) If the amended report involves issues other than those under appeal, the Department may review the amended report. The review of a report does not obligate the Department to change the tax due the Commonwealth and will not change any existing appeal rights of the taxpayer. If the Department determines that a change to the tax liability is appropriate, it will adjust the corporation's tax on the Department's records to conform to the revised tax as reported. The Department will credit the taxpayer's account to the extent of any overpayment resulting from the adjustment or assess the taxpayer's unpaid tax and unreported liability for tax, interest or penalty due the Commonwealth, whichever is applicable.

(g) *Additional information required to be provided with an amended report.* An amended report filed with the Department must contain the following:

(1) An agreement to the extension of the assessment period as described in subsection (c).

(2) The calculation of the amended tax liability.

(3) Revised Pennsylvania supporting schedules, if applicable.

(4) A complete explanation of the changes being made and the reason for those changes.

(5) Other information required by the Department to support the calculation of the amended tax liability.

CHAPTER 153. CORPORATE NET INCOME TAX

REPORTS AND PAYMENT OF TAX

§ 153.54. Changes made by Federal government.

(a) *General.* If the amount of taxable income, as returned by a taxpayer to the Federal government, is finally changed or corrected by the Commissioner of the Internal Revenue or by another agency or court of the United States, the taxpayer, within 30 days after the receipt of the final change or correction, shall make a report of change, under oath or affirmation, to the Department showing the finally changed or corrected taxable income, upon which tax is required to be paid to the United States. See section 406 of the TRC (72 P. S. § 7406). A change or correction of taxable income includes an increase or decrease in Federal taxable income before net operating loss deduction and special deductions.

(b) *What is required to be filed with the Department.* The following are required to be filed with the Department:

(1) A Report of Change as prescribed by the Department.

(2) Where a Federal audit has been conducted a copy of the summary of the Federal agent's report, commonly referred to as an "RAR."

(3) The Department may require the taxpayer to submit additional information or proof as it deems necessary.

(c) *When a Report of Change is required to be filed.* A Report of Change is required to be filed with the Department within 30 days of receipt of the final change or correction in taxable income as returned to the Federal Government. A Report of Change is required to be filed whether the Federal taxable income has been increased or decreased. See section 406(a) of the TRC.

(d) *When a change or correction in Federal taxable income is final and received.* A change or correction will be final and received as follows:

(1) A change or correction which increases the taxable income as returned to the Federal Government is final when a Federal Notice and Demand for Payment is issued to the taxpayer. Such a change or correction is received by the taxpayer on the date the taxpayer receives the Federal Notice and Demand for Payment.

Example 1. Taxpayer files a 2003 Report with the Department in conformity with its Federal Return as filed in 2003. In 2004 the Internal Revenue Service audits the taxpayer's Return which results in an increase of the taxpayer's Federal taxable income. Taxpayer does not contest this change. Thirty days after receipt of a Federal Notice and Demand for Payment, the taxpayer is required to file a Report of Change with the Department.

Example 2. Taxpayer files a 2003 Report with the Department in conformity with its Federal Return as filed in 2003. In 2004 the Internal Revenue Service audits the taxpayer's Return which results in an increase of taxpayer's Federal taxable income. Taxpayer contests this change and files a petition in the United States Tax Court. The United States Tax Court upholds the Internal

Revenue Service's action. Taxpayer does not appeal the United States Tax Court's decision. Thirty days after receipt of a Federal Notice and Demand for Payment, the taxpayer is required to file a Report of Change with the Department.

Example 3. Taxpayer files a 2003 report with the Department in conformity with its Federal return as filed in 2003. In 2004 the Internal Revenue Service audits the taxpayer's return which results in an increase of the taxpayer's Federal taxable income. Taxpayer contests this change and pursues all administrative and judicial remedies available without paying the contested amount of tax. The United States Supreme Court upholds the Internal Revenue Service's action. Thirty days after receipt of a Federal Notice and Demand for Payment, the taxpayer is required to file a Report of Change with the Department.

(2) A change or correction which decreases the taxable income as returned to the Federal Government is "final" when the taxpayer receives a refund or credit. The change or correction is received by the taxpayer on the date the taxpayer receives the refund or credit.

(3) A change or correction which does not increase or decrease the taxpayer's Federal tax is final when the taxpayer receives a notice from the IRS that its return will be adjusted in accordance with the examination report. The change or correction is "received" by the taxpayer on the date the taxpayer receives notice from the IRS that its return will be adjusted in accordance with the examination report.

Example. Taxpayer files a 2003 report with the Department in conformity with its Federal return as filed in 2003. In 2005 the Internal Revenue Service audits taxpayer's Federal return. The audit does not result in an increase in the Federal tax, but a change in the Commonwealth taxable income does occur due to the Federal action. Taxpayer is required to file a Report of Change within 30 days of notification by the Internal Revenue Service of its action.

(e) *More than one change or correction in Federal taxable income for a particular tax year.* A taxpayer is required to file a Report of Change for each change or correction by the Commissioner of Internal Revenue or by any other agency or court of the United States in the taxpayer's taxable income as reported to the Federal Government.

Example. As a result of a Federal audit of its 2003 Federal return, the taxpayer's Federal taxable income has been increased and the taxpayer has paid the Federal government additional tax. Since the taxpayer's Commonwealth taxable income also increased for 2003, taxpayer has filed a Report of Change with the Department. Thereafter, in a separate and subsequent court action the taxpayer contests the change in its Federal taxable income for 2003 and receives a refund from the Federal Government. Since its Commonwealth taxable income for 2003 has been decreased by this separate and subsequent action, the taxpayer is required to file a second Report of Change with the Department.

(f) *Penalties for failure to file a Report of Change.* Where there has been a final change or correction in the amount of taxable income, as returned by the taxpayer to the Federal government, which results in an increase in the taxable income, the taxpayer is required to file a Report of Change with the Department within 30 days after receipt of the final change or correction. If the taxpayer fails to file a Report of Change within the

30-day period, there shall be added to the tax a penalty of \$5.00 for every day during which the taxpayer is in default, but the Department may abate a penalty in whole or in part. See section 406(a) of the TRC.

(g) *Report of Change required to report Federal change or correction.*

(1) *Corporate Net Income Tax settled prior to January 1, 2008.* When a Federal change or correction in taxable income as reported to the Federal government occurs within 1 year of the date of settlement and, therefore, a Commonwealth amended report could be timely filed as provided in § 153.64 (relating to amended report), the taxpayer nevertheless is required to file a Report of Change. Filing an amended report will not satisfy the requirement of filing a Report of Change.

Example. Taxpayer files a Federal Return on March 15, 2003. Based upon that return, the taxpayer files its Commonwealth Report on April 15, 2003. In August of 2003, the IRS discovers an error in the taxpayer's return. Taxpayer shall file a Report of Change even though the final change or correction was received within the period in which the taxpayer could file an amended report. An amended report will not satisfy the requirement of filing a Report of Change.

(2) *Corporate Net Income Tax not settled prior to January 1, 2008.* When a change or correction in taxable income as reported to the Federal government occurs, the taxpayer is required to file a Report of Change regardless of whether or not an amended report could have been timely filed as provided in § 151.14 (relating to amended report). This requirement applies to changes or corrections initiated by either the taxpayer or the Federal government. Filing an amended report will not satisfy the requirement of filing a Report of Change.

Example. Taxpayer files a Federal Return on March 15, 2007. Based upon that return, the taxpayer files its Commonwealth Report on April 15, 2007. In August of 2008, the IRS conducts an audit and notifies taxpayer that its Federal taxable income is different than the reported figure. Taxpayer shall file a Report of Change even though the final change or correction was received within the period in which the taxpayer could file an amended report. An amended report will not satisfy the requirement of a Report of Change.

(h) *Changes initiated by the taxpayer.*

(1) A Report of Change shall be filed, and additional tax due paid, within 30 days of the date the amended Federal return is filed, or would have been filed in the case of a corporation participating in the filing of a consolidated Federal return.

(2) The taxpayer shall provide a copy of the amended Federal Income Tax return if the Report of Change is filed due to a change in Federal taxable income based on the filing of an amended Federal Income Tax return. In addition, the Department may also require proof of acceptance of the amended Federal Income Tax return. Examples of proof of acceptance by the Federal government include the following:

(i) Copy of the IRS refund check.

(ii) IRS statement of adjustment to your account.

(iii) IRS account transcript.

(iv) Other documentation at the discretion of the Department.

(3) Amended Federal Income Tax returns include any document allowed or authorized by the IRS for a taxpayer to adjust the taxpayer's Federal taxable income.

Example 1. Taxpayer files a Federal Return on March 15, 2007. Based upon that return, the taxpayer files its Commonwealth Report on April 15, 2007. In August of 2008, the taxpayer discovers taxable income was under-reported and files an amended Federal Income Tax return. Taxpayer shall file a Report of Change even though the final change or correction was received within the period in which the taxpayer could file an amended report. An amended report will not satisfy the requirement of a Report of Change.

Example 2. Taxpayer files a Federal Return on March 15, 2007. Based upon that return, the taxpayer files its Commonwealth Report on April 15, 2007. In March 2009, when filing the Federal Income Tax return for 2008, the

taxpayer files Federal Form 1139, Corporation Application for Tentative Refund, adjusting 2006 Federal taxable income for a capital loss carryback for 2008. Taxpayer shall file a Report of Change even though the final change or correction was received within the period in which the taxpayer could file an amended report. An amended report will not satisfy the requirement of a Report of Change.

SETTLEMENT AND RESETTLEMENT

§ 153.66. Applicability.

Sections 153.61—153.65, regarding settlement and re-settlement, apply to taxes settled prior to January 1, 2008.

[Pa.B. Doc. No. 10-1116. Filed for public inspection June 18, 2010, 9:00 a.m.]
