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

The Environmental Quality Board (Board) proposes to amend 25 *Pa. Code* Chapters 121 (relating to definitions) and 129 (relating to standards for sources) as set forth in Annex A. This proposal will control nitrogen oxide emissions from glass melting furnaces.

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

A. Effective Date

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

B. Contact Persons

For further information, contact Jane Mahinske, Air Quality Program Specialist, Division of Air Resource Management, Bureau of Air Quality, 12th Floor, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, telephone: 717-783-8949 or Robert "Bo" Reiley, Assistant Counsel, Bureau of Regulatory Counsel, 9th floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, telephone: 717-787-7060.

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

C. Statutory Authority

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

D. Background and Summary

When ground-level ozone is present in concentrations in excess of the Federal health-based standards, public health is adversely affected. The United States Environmental Protection Agency (EPA) has concluded that there is an association between ambient ozone concentrations and increased hospital admissions for respiratory ailments, such as asthma. Further, although children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Though these symptoms are often temporary, repeated exposure could result in permanent lung damage. The implementation of additional measures to address ozone air quality nonattainment in this Commonwealth is necessary to protect the public health.

The purpose of this proposed rulemaking is to reduce emissions of NOx from glass melting furnaces in order to reduce levels of ground-level ozone. Ground-level ozone is not directly emitted by pollution sources, but is created as a result of the chemical reaction of NOx and volatile organic compounds (VOC) in the presence of light and heat. The reduction of NOx emissions will also help protect the public health from high levels of fine particulates, 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.

The glass industry in Pennsylvania produces a variety of products, including flat glass, container glass, and pressed and blown glass. In 2002, flat glass production accounted for approximately 7,450 tons of NOx emissions; container glass production accounted for approximately 1,800 tons of NOx emissions; fiberglass production accounted for approximately 150 tons of NOx emissions; and pressed and blown glass, including picture tube glass, accounted for approximately 2,500 tons of NOx emissions. Total glass melting furnace NOx emissions in 2002 were approximately 11,900 tons. Since 2002 a number of furnaces/facilities have discontinued operation or made process changes and total NOx emissions during 2004 were approximately 9,230 tons. As a result, the glass industry in Pennsylvania remains the largest unregulated source for NOx emissions in this Commonwealth.

Pennsylvania, along with the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont and Virginia, and the District of Colombia, are members of the Ozone Transport Commission (OTC), which was created under Section 184 of the Federal Clean Air Act, 42 U.S.C. §7511c, to develop and implement regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions. To date, States from the OTC, including Pennsylvania, have established a number of regulatory programs to reduce ozone precursor emissions, including programs related to portable fuel containers, architectural and industrial maintenance coatings and consumer products. Consistent with its strategy to achieve equitable ozone precursor emission reductions from all industrial sectors, Pennsylvania, along with other OTC States, has met with representatives of the 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 Unified Air Quality Management District in California are appropriate NOx emission limits for glass melting operations located in Pennsylvania and the other OTC States. The San Joaquin Valley regulation was first adopted in 1994 and subsequently amended in 1998, 2002 and 2006. Consequently, the San Joaquin Valley regulation was used as a model when developing this proposal, but was fashioned to be a Pennsylvania-specific regulation.

Although NOx emission reduction technologies such as selective catalytic reduction and selective noncatalytic reduction can be adapted to control NOx emissions from glass melting furnaces, the Pennsylvania glass industry prefers to avoid expenditure for controls and to defer significant emission reductions until the time of glass furnace rebuilds. Furnace rebuilds occur every ten years or so when repair and maintenance costs for furnace refractory and other furnace components become excessive or maintenance is no longer feasible. Information available from the glass industry indicates that, for many of the furnaces in Pennsylvania, these furnace rebuilds will not occur until after 2009, the 8-hour ozone attainment deadline for Pennsylvania's ozone nonattainment areas. Consequently, the proposed regulatory provisions would allow the glass

industry a number of options for demonstrating compliance with NOx emission limitations. The compliance options include allowing the purchase of Clean Air Interstate Rule (CAIR) NOx Ozone Season allowances to account for emissions in excess of the proposed limits, as a near term compliance option.

The Department of Environmental Protection (Department) worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of these proposed regulations. At its July 26, 2007, meeting, the AQTAC concurred with the Department's recommendation to advance the proposal to the Board for consideration as proposed rulemaking with publication for a minimum 60-day public comment period. The Department also conferred with the Citizens Advisory Council concerning the proposed rulemaking on July 17, 2007.

As part of this proposed rulemaking, the Board under § 129.309 (relating to compliance demonstration) proposes that the owner or operator of a glass melting furnace may demonstrate compliance with the requirements of § 129.304 (relating to emission requirements) as follows - for the 2009 ozone season surrendering 0.25 CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces; for the 2010 ozone season surrendering 0.50 CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces; for the 2011 ozone season surrendering 0.75 CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces; and for the 2012 ozone season and beyond surrendering one CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces. However, specific comments are requested during the public participation process on the following alternative allowance surrender compliance demonstration: for the 2009 and 2010 ozone seasons, 0.25 CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces would be surrendered; for the 2011 ozone season, 0.50 CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces would be surrendered; and for the 2012 ozone season and beyond, one CAIR NOx Ozone Season allowance for each ton of NOx emissions that exceeds the allowable emissions of the applicable glass melting furnaces would be surrendered.

E. Summary of Regulatory Revisions

The proposed amendments add the following new definitions and terms to 25 *Pa. Code* § 121.1 (relating to definitions) used in the substantive provisions under §§ 129.301 – 129.310 (relating to control of NOx emissions from glass melting furnaces): "100% Air-fuel fired," "Air-fuel firing," "Blown glass," "Complete reconstruction," "Container glass," "Fiberglass," "Flat glass," "Furnace battery," "Furnace rebuild," "Glass melting furnace," "Idling," "Multiple furnaces," "Oxyfuel fired," "Oxygen-assisted combustion," "Permitted production capacity," "Pressed glass," "Primary furnace combustion system," "Pull rate," "Shutdown," "Start-up," and "Vintage or vintage year."

Proposed § 129.301 (related to purpose) limits the emissions of NOx from glass melting furnaces.

Proposed § 129.302 (relating to applicability) specifies that beginning May 1, 2009, the regulation applies 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 or 20 pounds per hour.

Proposed § 129.303 (relating to exemptions) provides, among other things, that the emission requirements in § 129.304 (relating to emission requirements) shall not apply during periods of start-up or shutdown as defined in § 121.1, if the owner or operator complies with the requirements of §§ 129.305 and 129.306 (relating to start-up requirements; and shutdown requirements). 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.

Proposed § 129.304 (relating to emission requirements) provides that the owner or operator of a glass melting furnace shall determine allowable NOx emissions during the interval from May 1 through September 30, 2009, and each year thereafter, by multiplying the tons of glass pulled by each furnace by: 4.0 pounds of NOx per ton of glass pulled for container glass furnaces; 7.0 pounds of NOx per ton of glass pulled for pressed or blown glass furnaces; 4.0 pounds of NOx per ton of glass pulled for fiberglass furnaces; and 7.0 pounds of NOx per ton of glass pulled for flat glass furnaces.

Proposed § 129.305 (relating to start-up requirements) provides that the owner or operator supply specific information requested by the Department 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 conjunction with the plan approval application for the construction of a new furnace or furnace rebuild. The Department 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.

Proposed § 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.

Proposed § 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.

Proposed § 129.308 (relating to compliance determination) provides, among other things, that not later than May 1, 2009, the owner or operator of a glass melting furnace subject to this section and §§ 129.301-129.307, 129.309 and 129.310 shall install, operate and maintain continuous emissions monitoring systems (CEMS), (as defined in § 121.1) for NOx and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for continuous source monitoring for stationary sources), and calculate actual emissions using the CEMS data reported to the Department. However, the owner or operator of a glass melting furnace may elect to install and operate an alternate NOx emissions monitoring system or method approved, in writing, by the Department.

Proposed § 129.309 (relating to compliance demonstration) requires that by October 31, 2009, and each year thereafter, the owner or operator of a glass melting furnace shall calculate and report to the Department the difference between the actual emissions from the glass melting furnace during the interval from May 1 through September 30 and the allowable emissions for that period. Compliance with § 129.304 (relating to emission requirements) shall be demonstrated by averaging the NOx emissions during the interval from May 1 through September 30. 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 AQTAC requested that the EQB solicit comments "on allowing averaging between owners/operators" of different glass melting furnace facilities in this Commonwealth.

The owner or operator of a glass melting furnace may demonstrate compliance with the requirements of § 129.304 for the period from May 1 through September 30, 2009, by surrendering to the Department 0.25 CAIR NOx Ozone Season allowance for each ton of NOx emissions by which the combined actual emissions exceed the allowable emissions of the glass melting furnaces subject to this section. For the period from May 1 through September 30, 2010, the owner or operator may demonstrate compliance by surrendering 0.50 CAIR NOx Ozone Season allowance for each ton of NOx emissions by which the combined actual emissions exceed the allowable emissions of the glass melting furnaces subject to this section. For the period from May 1 through September 30, 2011, the owner or operator may demonstrate compliance by surrendering 0.75 CAIR NOx Ozone Season allowance for each ton of NOx emissions by which the combined actual emissions exceed the allowable emissions of the glass melting furnaces subject to this section. Lastly, for the period from May 1 through September 30, 2012, and each ozone season thereafter, the owner or operator may demonstrate compliance by surrendering one CAIR NOx Ozone Season allowance for each ton of NOx emissions by which the combined actual emissions exceed the allowable emissions of the glass melting furnaces subject to this section.

Proposed § 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.

F. Benefits, Costs and Compliance

Benefits

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

Compliance Costs

The proposed rulemaking will impact approximately 16 glass melting facilities in Pennsylvania. There will be compliance costs related to the installation and operation of add-on control technology and NOx emissions monitoring equipment such as continuous emissions monitoring (CEM) systems, if an owner or operator elects to install such controls and CEM

systems. However, the owners and operator of these facilities will be able to apply for an alternate monitoring system or method, which would significantly reduce their monitoring cost under this proposal.

The proposed rulemaking provides compliance alternatives including emissions averaging and use of CAIR NOx Ozone Season allowances as near term compliance options. This regulatory flexibility will allow an owner or operator of an affected glass melting furnace to select the least-expensive compliance alternative, including emissions averaging or the use of CAIR NOx Ozone Season allowances, to demonstrate compliance with the NOx emission limits until the next scheduled furnace rebuild.

Compliance Assistance Plan

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

Paperwork Requirements

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

G. Pollution Prevention

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

H. Sunset Review

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

I. Regulatory Review

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

Department has provided the IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

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

J. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions, or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by (blank) (within 60 days of publication in the *Pennsylvania Bulletin).* Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by (blank) (within 60 days following publication in the *Pennsylvania Bulletin)*. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

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

K. Public Hearings

The Environmental Quality Board will hold __ public hearings for the purpose of accepting comments on this proposal. The hearings will be held at ___ p.m. on the following dates:

(blank)

(blank)

(blank)

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

of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans With Disabilities Act of 1990 should contact the Environmental Quality Board at 717-787-4526 or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

BY:

KATHLEEN A. McGINTY
Chairperson
Environmental Quality Board