

Executive Summary Proposed Rulemaking – Control of NO_x Emissions from Glass Melting Furnaces

The proposed amendments to 25 *Pa. Code* Chapter 129 (relating to standards for sources) establish §§ 129.301-129.310 which include nitrogen oxides (NO_x) emission standards during ozone season, an allowance compliance option and other requirements for the purpose of reducing NO_x emissions from glass melting furnaces. This rulemaking will affect the owners and operators of 16 glass melting facilities with 26 glass melting furnaces in Pennsylvania. These furnaces are one of the largest industrial NO_x emission source categories in the Commonwealth and account for approximately 21% of the more than 45,000 tons per year of NO_x emitted into the air from all nonelectric generating units in this Commonwealth. The owners or operators of the facilities will be required to meet NO_x emission limitations and emission standards and to comply with administrative requirements including emissions monitoring and reporting.

The proposed rulemaking adds new definitions and terms to 25 *Pa. Code* § 121.1 (relating to definitions) including: “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.” In addition, the existing term and definition in § 121.1 for “CEMS-Continuous emissions monitoring system” includes proposed amendments.

The proposed § 129.301 (relating to purpose) provides that the purpose of the proposal is to limit NO_x emissions from glass melting furnaces.

Section 129.302 (relating to applicability) of the proposed rulemaking states that beginning May 1, 2009, 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 or 20 pounds per hour must comply with the NO_x control requirements for glass melting furnaces.

Section 129.303 (relating to exemptions) of the proposal 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 if the owner or operator complies with the requirements of §§ 129.305 and 129.306 (relating to start-up requirements; and shutdown requirements). In addition, records and documentation must be maintained to support an exemption granted under § 129.303.

As proposed, § 129.304 (relating to emission requirements) provides that the owner or operator of a glass melting furnace shall determine allowable NO_x 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 the applicable NO_x emissions limit.

Section 129.305 (relating to start-up requirements) of the proposed rulemaking requires certain information 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.

As 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.

The proposed compliance determination requirements in § 129.308 specify that not later than May 1, 2009, affected glass melting furnace owners and operators must install and maintain either a NOx continuous emissions monitoring systems or alternate monitoring system or method to demonstrate compliance. The Department must approve, in writing, any alternate NOx emissions monitoring system or method that will be used to demonstrate compliance with the NOx emission limits for glass melting furnaces.

As 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 system-wide emissions averaging basis among glass melting furnaces under common control of the same owner or operator in this Commonwealth. The proposal also allows for the demonstration of compliance for the period from May 1 through September 30, 2009, by surrendering to the Department a Clean Air Interstate Rule (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.

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.

The proposed rulemaking will assure that the Commonwealth will continue to experience improved ozone, fine particulate and visibility benefits. This regulation will reduce emissions of NOx in the Commonwealth. NOx is a precursor to ozone and fine particulates, which in turn facilitate the formation of haze. Adoption of NOx emission limits for glass melting furnaces is part of the Commonwealth's strategy, in concert with other Ozone Transport Region jurisdictions, to reduce transport of ozone to achieve and maintain the health-based 8-hour ozone national ambient air quality standard (NAAQS). In addition, the strategy will provide reductions of NOx emissions necessary to reduce formation of fine particulates and haze and improve visibility in the Northeast. The proposed rulemaking will improve public health and social well being by reducing emissions of NOx and the subsequent formation of ozone, fine particulates and haze.

The Air Quality Technical Advisory Committee (AQTAC) reviewed this proposed rulemaking on July 26, 2007. The AQTAC concurred with the Department's efforts to control NO_x emissions from glass melting furnaces and the Department's recommendation to present the regulation to the Environmental Quality Board for consideration for proposed rulemaking. In addition, the proposed rulemaking was discussed with the Citizens Advisory Council's (CAC) Air Committee on July 17, 2007.

The Department recommends three public hearings and a 60-day public comment period on the proposed rulemaking.