

# **Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces**



---

**Environmental Quality Board Meeting  
Harrisburg, PA  
February 19, 2008**

Thomas K. Fidler, Deputy Secretary  
Office of Waste, Air and Radiation Management



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

- OTC member states, including Pennsylvania, adopted OTC Resolution No. 06-02, which requires states in the OTR to pursue the adoption of certain control measures for mobile, stationary and area sources to reduce ground-level ozone to healthful levels.
- The proposed regulation will reduce emissions of NO<sub>x</sub>, an ozone precursor, from glass melting furnaces beginning May 1, 2009.
- The control of NO<sub>x</sub> emissions from glass melting furnaces in the Commonwealth is reasonably necessary to achieve and maintain the 8-hour ozone national ambient air quality standard.



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

- Glass melting furnaces are located in the following states in the OTR:
  - NJ (38 furnaces), NY (13 furnaces), MD, MA, RI (2 furnaces each) and PA (26 furnaces)
- Major types of glass operations:
  - Container
  - Flat
  - Fiberglass
  - Pressed and blown
- Glass melting furnaces in Pennsylvania emitted 9,800 tons of NO<sub>x</sub> in 2005, or **21%** of all industrial sources of NO<sub>x</sub>.



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

## Applicability

- A glass melting furnace that emits or has the potential to emit NO<sub>x</sub> at a rate greater than:
  - 50 tons per year, or
  - 20 pounds per hour
- Compliance Date: May 1, 2009, and each year thereafter.
- If adopted as a final-form regulation, a revision to the State Implementation Plan will be submitted to EPA.



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

## NO<sub>x</sub> Emission Limits

- Flat glass, pressed and blown glass melting furnaces:
  - 7.0 pounds of NO<sub>x</sub> per ton of glass pulled.
- Container glass and fiberglass melting furnaces:
  - 4.0 pounds of NO<sub>x</sub> per ton of glass pulled.
- Under furnace-idling conditions: The NO<sub>x</sub> emissions limit is based on the furnace's permitted production capacity in tons of glass per day.



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

## EXEMPTIONS

- The proposed rulemaking will not apply to glass melting furnaces where the heat is supplied solely by an electric current from electrodes submerged in molten glass.
- The proposal also provides exemptions under conditions of startup and shut-down during the construction of new glass melting furnaces or furnace rebuilds.



# **Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces**

---

## **Compliance Determination**

- Not later than May 1, 2009 - CEMS, alternate NO<sub>x</sub> emissions monitoring systems or method approved by the Department must be installed, operated and maintained.
- Quarterly reports must be submitted to the Department.
- The data availability requirements of 25 Pa. Code, Chapter 139, must also be met.



# Proposed Rulemaking: Control of NOx Emissions from Glass Melting Furnaces

---

## Compliance Demonstration

- Compliance is demonstrated by averaging the NOx emissions during the period from May 1<sup>st</sup> through September 30<sup>th</sup> of every year.
- The owners and operators of affected glass melting furnaces would have several options for demonstrating compliance:
  - Furnace-by-furnace basis,
  - Facility-wide emissions averaging, and
  - System-wide averaging among glass melting furnaces under common control of the same owner or operator in Pennsylvania.





# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

## Compliance Demonstration (Cont'd)

- The phased-in surrender of CAIR NO<sub>x</sub> Ozone Season allowances provides another compliance option:
- May 1, 2009 - September 30, 2009:
  - Surrender 0.25 CAIR NO<sub>x</sub> Ozone Season allowance for each ton of excess NO<sub>x</sub> emissions.
- May 1, 2010 - September 30, 2010:
  - Surrender 0.50 CAIR NO<sub>x</sub> Ozone Season allowance for each ton of excess NO<sub>x</sub> emissions.
- May 1, 2011 - September 30, 2011:
  - Surrender 0.75 CAIR NO<sub>x</sub> Ozone Season allowance for each ton of excess NO<sub>x</sub> emissions.
- May 1, 2012 - September 30, 2012 and each ozone season thereafter:
  - Surrender 1.0 CAIR NO<sub>x</sub> Ozone Season allowance for each ton of excess NO<sub>x</sub> emissions.



# **Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces**

---

## **Advisory Committee Review:**

- On July 26, 2007, AQTAC discussed the proposed rulemaking to control NO<sub>x</sub> emissions from glass melting furnaces.
- AQTAC concurred with the Department's recommendation to submit the proposal for EQB consideration.



# Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces

---

## Advisory Committee Review:

- CAC also concurred with the Department's recommendation to seek EQB consideration of the proposed rulemaking.
- The CAC's Air Committee and full CAC discussed the proposed rulemaking on July 17, 2007, and August 17, 2007, respectively.
- CAC raised "a concern over allowing system-wide emissions averaging to demonstrate compliance" and requested "specific public comments on this issue when the packages move forward."



# **Proposed Rulemaking: Control of NO<sub>x</sub> Emissions from Glass Melting Furnaces**

---

## **Public Participation Recommendations:**

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



---

**Thomas K. Fidler**

Deputy Secretary for Waste, Air, and Radiation Management

---

**Joyce E. Epps**

Director, Bureau of Air Quality

---

**Robert A. Reiley**

Bureau of Regulatory Counsel

**Jane Mahinske**

Bureau of Air Quality