

ADVANCED NOTICE OF FINAL RULMAKING  
#2683  
EQB #7-420  
CONTROL OF NO<sub>x</sub> EMISSIONS FROM GLASS  
MELTING FURNACES

# 2683



**PITTSBURGH GLASS WORKS**

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**Joseph D. Stas**  
Executive Vice President and COO

December 15, 2009

Independent Regulatory Review Commission  
333 Market Street, 14<sup>th</sup> Floor  
Harrisburg, PA 17101

Re: **Advanced Notice of Final Rulemaking**  
**#2683/EQB#7-420**  
**Control of NOx Emissions from Glass Melting Furnaces**

Dear Commissioners:

Pittsburgh Glass Works, LLC ("PGW") submits the following comments regarding the proposed final rule entitled Control of NOx Emissions from Glass Melting Furnaces [25 Pa. Code, Chapters 121 and 129] published in the Pennsylvania Bulletin on November 6, 2009. Questions or responses related to these comments should be directed to Ted Huyett, Pittsburgh Glass Works, LLC, 10800 South 13<sup>th</sup> Street, Oak Creek, Wisconsin 53154, or returned via e-mail at [thuyett@pgwglass.com](mailto:thuyett@pgwglass.com).

PGW owns and operates two flat glass melting furnaces in Meadville, Pa. for the production of glass for the automotive industry. This facility was formerly owned and operated by PPG Industries, Inc. ("PPG"). On September 30, 2008, PGW acquired PPG's automotive glass and services businesses. That acquisition included the Meadville facility. That facility operates under Title V Permit No. 20-00145. Each flat glass melting furnace operates continuously, 24-hours per day, 365 days per year. Each furnace operates for approximately 10 to 15 years before a shutdown is required for re-bricking due to normal deterioration and wear of the refractory brick. Furnace 8-1 last underwent re-bricking in 2002 and was voluntarily converted to oxy-fuel. Furnace 8-2 began re-bricking earlier this year and is a standard air fired furnace. With approval from the Department of Environmental Protection ("Department"), PGW installed low NOx burners on furnace 8-2 during the 2009 re-bricking. Furnace 8-2 was recently restarted.

PGW has submitted comments to the Department on the prior drafts of the proposed Rule, and PGW appreciates the fact that the Department has made some revisions to the proposed Rule that appear to be responsive to some of the comments submitted by PGW and others.

**Comments**

PGW understands that the IRRC focuses its review of proposed Rules, *inter alia*, on the statutory authority for the Rule, its consistency with the legislative intent, economic impacts within the Commonwealth, impacts on prices and competition, and clarity and reasonableness of the proposed regulation.

PGW's comments address statutory authority, legislative intent, economic impacts in the Commonwealth, impacts on competition, and clarity of the proposed regulation.

## 1. **Background**

When first proposed in 2007, the Rule was structured to establish NOx emission standards for glass melting furnaces to apply "during the ozone season," not for all 12 months of the year. The Department also projected that the proposed Rule will assure that the Commonwealth will continue to experience improved ozone, fine particulate and visibility benefits. The overall strategy is to reduce ozone transport so as to achieve and maintain the health-based 8-hour ozone national ambient air quality standard ("NAAQS").

On September 18, 2008, the Department provided a summary of the comments received on the initial draft Rule. The summary did not include any responses to the listed comments.

In the September 12, 2009 publication of the revised proposed Rule, the same objectives were noted. However, the Department also noted that the revised proposed Rule would require compliance with the emission limits for the entire 12 months of the year and that the Rule "is more stringent than any corresponding Federal requirements," claiming that those more stringent standards are reasonably necessary to achieve and maintain the 8-hour ozone NAAQS. No supporting data or information was provided to substantiate that claim.

On November 6, 2009, the draft final Rule was made available, and it was listed as an agenda item for the November 18, 2009 Air Quality Technical Advisory Committee meeting. The AQTAC recommended that the rulemaking move forward. We have been advised that the final form of the proposed Rule will be presented for approval to the Environmental Quality Board at its February 16, 2010 meeting.

## 2. **The Final Form Regulation Does not Comply with Executive Order 1996-1 and is not Supported by Pennsylvania Law**

Executive Order 1996-1 applies to all Pennsylvania agencies, including the Department, when drafting and promulgating new Rules. Where, as here, Federal regulations exist, ¶ 1.e. provides that "Pennsylvania's regulation shall not exceed federal standards unless justified by a compelling and articulable Pennsylvania interest or required by state law." Moreover, "Regulations shall not hamper Pennsylvania's ability to compete effectively with other States." ¶ 1.e. Finally, the cost to comply with regulations "shall not" outweigh their benefits. ¶ 1.b.

Section 4.2(a) of the Pennsylvania Air Pollution Control Act ("APCA"), 25 P.S. § 4004.2(a), provides that the EQB may adopt, by regulation, "only those control measures which are reasonably required...to achieve and maintain the ambient air quality standards or to satisfy related Clean Air Act requirements." Such control measures "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." § 4.2(b). The EQB may not, by regulation, adopt an ambient air quality standard for a specific pollutant which is more stringent than the air quality standard which EPA has adopted for that pollutant. § 4.2(c).

The record developed for this proposed Rule demonstrates that the proposed NOx limits for glass melting furnaces, applicable throughout the entire calendar year, by the Department's own admission, are more stringent than any corresponding Federal requirements, but the record contains no cost/benefit analysis, and the record does not identify any compelling and articulated Pennsylvania interest that justifies the more stringent requirements.

As part of its comments on the proposed Rule, PPG has submitted detailed air modeling, using the Department's data, to assess the impact of the NOx emissions from PGW's Meadville and PPG's Carlisle glass melting furnaces. The modeling results indicate that existing NOx emissions from those two facilities **do not** contribute to any ozone non-attainment. The Department has simply chosen to ignore those modeling results. Thus, PGW respectfully submits that the proposed final Rule, in its current form, is lacking in statutory authority and is inconsistent with the clearly expressed legislative intent.

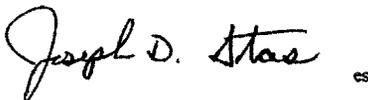
Moreover, the more stringent standards, if adopted, will ultimately require furnace operators like PGW to spend \$9 to \$10 million to install additional emission controls to achieve a very minimal emission reduction, and then to incur the substantial additional annual operating expenses associated therewith to meet the proposed more stringent requirements while competitors in other States, not subject to the same more stringent standards, are not required to do so. That will make Pennsylvania's glass melting furnaces non-competitive with the result that a number of such facilities may be shutdown, costing Pennsylvania and its political subdivisions jobs and tax revenues. That is the very result that Executive Order 1996-1 was intended to prevent.

### **3. The Alternate Compliance Date Petition Process Lacks Clarity**

Section 129.304(b) of the proposed Rule provides that an owner or operator of a glass melting furnace not in compliance with the proposed emission limit by May 1, 2011, may petition for an emission compliance schedule provided any such petition is submitted by May 1, 2011. The proposed regulation does not specify whether the owner/operator of a glass melting furnace who submits a timely petition is entitled to continue operating the glass melting furnace in accordance with its then current permit limits until the Department makes a determination on the petition. The proposed regulation does not address, with any specificity, the criteria that will be used by the Department to determine whether to grant or deny such a petition. Thus, an owner/operator can submit a petition in good faith without any ability to make a reasoned judgment as to whether the petition will be approved or denied, and the owner/operator's status after May 1, 2011 is undefined and unknown. Such uncertainty makes business planning extremely difficult if not impossible. Moreover, in the absence of objective criteria, standards or benchmarks, the petition review and decision-making process is subject to possible arbitrary actions, inconsistencies, and delays. Finally, if a petition for an emission compliance schedule is denied or is granted with conditions that the petitioner finds objectionable, the Rule does not specify whether the furnace can continue operating while the owner/operator pursues any and all appeal rights.

Thus, PGW respectfully submits that the proposed regulation lacks clarity and reasonableness.

Sincerely,

Handwritten signature of Joseph D. Stas in black ink, followed by a small "es" mark.

Joseph D. Stas  
Executive Vice President and COO

# 2683



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**Joseph D. Stas**  
Executive Vice President and COO

October 12, 2009

Jane Mahinske  
Division of Air Resource Management  
Bureau of Air Quality  
Rachel Carson State Office Building, 12<sup>th</sup> Floor  
400 Market Street  
P.O. Box 8468  
Harrisburg, PA 17101-8468

**Subject: Comments of Pittsburgh Glass Works, LLC Regarding Proposed Rulemaking – Control of NOx Emissions from Glass Melting Furnaces**

Dear Ms. Mahinske:

Pittsburgh Glass Works, LLC (PGW) submits the following comments regarding the proposed rulemaking entitled Control of NOx Emissions from Glass Melting Furnaces [25 PA Code Chapters 121 and 129] published in the Pennsylvania Bulletin on September 11, 2009. Comments are organized by proposed rulemaking chapter and paragraph. Background information regarding PGW's Pennsylvania glass melting facility is also included. Questions or responses related to these comments should be directed to Ted Huyett, Pittsburgh Glass Works, LLC, 10800 South 13<sup>th</sup> Street, Oak Creek, WI 53154, or returned via email at [thuyett@pgwglass.com](mailto:thuyett@pgwglass.com).

Meadville Facility Background Information

PGW owns and operates two flat glass melting furnaces in Meadville, PA for the production of glass for the automotive industry. This facility was formerly owned and operated by PPG Industries, Inc. ("PPG") On September 30, 2008, PGW acquired PPG's automotive glass and services businesses. The acquisition included the Meadville, PA facility. The facility operates under Title V Permit No.: 20-00145. Each flat glass melting furnace operates continuously, 24 hours a day, 365 days a year. Each furnace operates for approximately 10 to 15 years before shutdown is required for rebricking due to normal deterioration and wear of the refractory brick. Furnace 8-1 last underwent rebricking in 2002 and was voluntarily converted to oxy-fuel. Furnace 8-2 began rebricking earlier this year and is a standard air fired furnace. PGW plans to install Low NOx burners on Furnace 8-2 during 2009. At the request of the Department, a Plan Approval Application for installation of the Low NOx Burners was submitted by PGW in May 2009. The Plan Approval Application has been tentatively approved. PGW is awaiting written approval notification from the Department.

## Comments

### A. 121.1. Definitions

The definition of "Start-up" proposed by the Department focuses on operating temperature as the primary parameter of significance during furnace start-up. Industry experience indicates temperature is one of several key operational and process variables that are critical to achieve steady state operation of a glass melting furnace during the start-up of a new, rebuilt, or idled unit. The combustion system, batch charging, instrumentation, power supply/utilities, emission controls and other factors must be stabilized and are subject to upset as a glass melting furnace is undergoing start-up. The definition of "Start-up" included in the State of California San Joaquin Valley Unified Air Pollution Control District Rule 4354 (Glass Melting Furnaces) addresses these variables by including the wording: ". . . and systems and instrumentation are brought to stabilization." Thus, PGW urges that the definition of "Start-up" be revised to read: *"Start-up – For purposes of §§ 129.301 – 129.310, the period of time, after initial construction, shutdown or furnace rebuild, during which a glass melting furnace is heated to operating temperature by the primary furnace combustion system, and systems and instrumentation are brought to stabilization."*

### B. 129.303. Exemptions

When the Department first announced its intention to require a reduction of NOx emissions from glass melting furnaces as part of its Ozone Transport Commission strategy, PPG owned and operated the PGW Meadville, PA flat glass facility. At that time, PPG retained Energy and Environmental Management, Inc. in conjunction with Environ International Corporation and Alpine Geophysics, LLC (collectively referred to as "Consultants") to utilize the same model used by the Regional Planning Organization to determine what, if any, impact NOx emissions from the Meadville facility would have on the formation of ground-level ozone in the nearest ozone non-attainment areas. The results of those studies were included with PPG's comments on the April 2008 proposed regulation and demonstrated that the Meadville facility does not contribute to the formation of ground level ozone at any area within the Northeast Transport Region that has failed to attain compliance with the National Ambient Air Quality Standards for ozone.

Actual 2002 emission data was used in that modeling. That data did not fully account for NOx emission reductions resulting from the oxy-fuel system installed on Meadville Furnace 8-1 in 2002. Earlier this year, PPG requested that the Consultants review the modeling studies in light of the full NOx emission reductions realized from the oxy-fuel conversion of Furnace 8-1. The review confirmed that the Meadville facility does not contribute to the formation of ground level ozone at any area within the Northeast Transport Region that has failed to attain compliance with the National Ambient Air Quality Standards for ozone. PPG included summary reports of the modeling in comments previously submitted to the Department, and, PPG is again including the summary reports along with its comments being submitted in response to the current proposed rule. PGW incorporates these summary reports into this submission by reference.

As written, the proposed rule applies to all glass melting furnaces in the State, including those which do not cause or contribute to any National Ambient Air Quality Standard ozone exceedance. Requiring emission reductions from sources which do not materially contribute to the formation of ground level ozone is arbitrary, overly burdensome, and places unnecessary and unreasonable financial strain on the facility. In this light, PGW requests that the Department include in this proposed rule an exemption based on a petition or variance procedure for facilities which can demonstrate that NOx emissions from such glass melting furnaces do not contribute to the formation of ground level ozone causing or contributing to ozone exceedance in the nearest ozone non-attainment areas.

Paragraph 129.303 includes exemption provisions for furnace start-up, shutdown, or idling, as defined in paragraph 121.1. Definitions. However, there are no provisions for unplanned emergencies and/or process upsets which may occur such as power or other utility outages, combustion system malfunctions, refractory collapse, etc. These unplanned events could adversely impact NOx emissions

and are largely out of the direct control of regulated facilities. PGW requests that language be included in the proposed rulemaking to exempt unplanned emergency and/or process upset events, including requirements for notification of the Department within a reasonable time period (e.g. 24 hours), estimated time period for return to normal operation, and recordkeeping.

C. 129.304. Emission Requirements

Paragraph 129.304 has been modified by the Department to include a process for petitioning for an alternative emission limitation or compliance schedule if it is economically or technically infeasible to meet the emission limitations outlined in subsection (a)(5), or the operator's schedule for furnace cold shutdown does not allow compliance with the January 1, 2011 compliance deadline. It is evident the Department listened to, and attempted to address, comments from the regulated community regarding typical glass melting furnace operating and rebricking schedules, and the potentially devastating adverse economic and competitive impacts deviation from those schedules would have on the affected facilities.

As drafted, it is unclear whether the alternative emission limitation provision included in subsection (c)(1), which addresses economic and technical infeasibility of meeting the proposed emission limits, applies to all glass melting furnaces. In addition, the wording ". . . to the department's satisfaction . . ." included in this subsection is nebulous. The provision for an alternative emission limitation based on economic and technological infeasibility should be available to all glass melting furnaces and be available independent of the alternative compliance deadline provision which is dependent upon a cold shutdown schedule. 129.304 (c)(1) should be revised to read: *"The owner or operator of a glass melting furnace subject to subsection (a) may submit a petition to the Department requesting that the Department establish an alternative emission limitation if the owner or operator demonstrates that it is economically or technically infeasible to meet the emission limitations in subsection (a). The alternative emission limitation must be included in either a plan approval or an operating permit."*

It is also unclear whether the alternative compliance deadline provision included in subsection (c)(2) is intended to be an independent provision which automatically resets the compliance deadline for an existing furnace to 180 days after the first rebricking or rebuild after the rule's effective date, or whether an existing furnace that will become subject to the rule after the next rebricking or rebuild must petition for an alternative compliance deadline. 129.304(c) should be revised to read: *"An owner or operator of a glass melting furnace not meeting the NOx emission limits specified in subsection (a) by January 1, 2011 may submit to the Department by January 1, 2011, the anticipated date of the next rebuild/rebricking, in which case the compliance deadline shall be 180 days after such date or the actual rebuild/rebricking should it occur earlier. An owner or operator of a glass melting furnace may petition the department for an alternative emission limitation as follows:*

(1) *Change as noted above*

(2) *Delete*

(3) *Delete*

(4) *No Change*

Accordingly, 129.304 (b) should be revised to read: *"The owner or operator of a glass melting furnace shall comply with the requirements of subsection (a) by January 1, 2011 unless it qualifies for an alternative compliance schedule or a petition for an alternative emission limitation is approved by the Department in accordance with subsection (c)."*

Notwithstanding the above, PGW recognizes that the currently proposed petition process, if equitably applied and administered, should provide some degree of relief from adverse economic and competitive impacts due to the furnace rebricking/rebuild schedule. If retained in the final rule, PGW requests clarification or modification of subsections (b) and (c) as follows:

1. The final regulation should specify the owner/operator of a glass melting furnace who submits a timely petition substantially addressing the requirements outlined in subsections (b) and (c) is entitled to continue operating affected glass melting furnaces in accordance with current permit limits, terms, and conditions until the Department makes a determination on the petition. If the petition is approved, it is expected emission limits and a compliance schedule, mutually agreed upon by the Department and the owner/operator, will be established going forward. If the petition is denied, the owner/operator should be given a reasonable amount of time to either resubmit the petition, or achieve compliance.

2. Subsection (c)(4) of the proposed regulation contains a listing of the information a petition must include. However, the proposed regulation does not contain objective criteria, standards, or benchmarks, nor does it outline a process that will be used by the Department in deciding to approve or deny a petition. Thus, an owner/operator can submit a petition in good faith without any ability to make a reasoned judgment as to whether the petition will be approved or denied. Such uncertainty makes business planning extremely difficult if not impossible. Moreover, in the absence of objective criteria, standards, or benchmarks, the petition review and decision making process is subject to possible arbitrary actions, inconsistencies, and delays. The procedural character of the petition review process should be defined. PGW submits the following criteria for consideration by the Department:

- a) The ability of the facility to consistently achieve the NOx emission limits included in its current operating permit.
- b) The reasonable expected performance of the currently installed and operating glass melting furnace system, including previously installed and operating emission control measures, in limiting NOx emissions.
- c) The life expectancy of the current furnace before the next rebricking or rebuild.
- d) The furnace system modifications that would most likely be selected by the owner or operator during the next rebricking or rebuild in order to meet the applicable NOx emission limit(s).

3. If a petition for an alternative emission limitation or compliance schedule is denied, or is granted with conditions the petitioner finds objectionable, what recourse does the petitioner have? Is the Department's decision reviewable by the Environmental Hearing Board or a court of law? If such review is available, how will the reviewing body be able to effectively consider the challenge without objective criteria, standards, or benchmarks for acting on a petition?

#### D. 129.305. Start-up Requirements

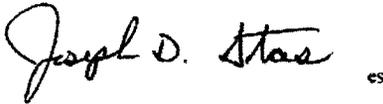
Paragraph 129.305 contains requirements and wording which appear to go beyond what is appropriate for the Department to address in the context of regulating glass melting furnace NOx emissions. Specifically, subsection 129.305 (a) includes the wording ". . . information requested by the Department to assure proper operation of the furnace." Furnace operation is exclusively within the control of the owner and operator. The Department's interest in proper operation of a furnace should be limited to ensuring that NOx emissions are appropriately controlled/limited, monitored, and reported. Accordingly, subsection 129.305 (a) should be revised to read: "*No later than 30 days prior to the anticipated date of start-up, the owner or operator of the glass melting furnace shall submit, in writing, to the Department, the following information:*".

Subsection 129.305 (f) includes a provision for limiting excess oxygen to 5% during the furnace start-up period. It is unclear what relevance this provision has related to NOx emission limitations contained in, or excepted by, subsection 129.304 (a). NOx emissions are typically of concern only after start-up because start-up conditions involve lower, gradually increasing temperatures. Lower NOx emissions occur at the lower start-up temperatures. Accordingly, subsection 129.305 (f) should be deleted.

E. 129.308. Compliance Determination

Paragraph 129.308 requires installation, operation and maintenance of continuous emissions monitoring systems (CEMS), or an alternate NOx emissions monitoring system or method if approved in writing by the Department, not later than 14 days prior to the applicable compliance date under 129.304(b). If a petition is submitted for an alternative emission limitation or compliance schedule, does the petition also apply to installation of CEMs or an alternate, or must CEMS or an alternate be installed regardless of the petition process?

Sincerely,

Handwritten signature of Joseph D. Stas in cursive script, followed by the letters "es" in a small font.

Joseph D. Stas

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**From:** Kaufman, Kim  
**Sent:** Monday, December 21, 2009 8:31 AM  
**To:** Gelnett, Wanda B.  
**Cc:** Cooper, Kathy  
**Subject:** Fw: PGW, LLC Comments - Advanced Notice of Final Rulemaking #2683 - Control of NOx Emissions From Glass Melting Furnaces Final Rule  
**Attachments:** NOx Emissions letter from J.Stas - 12'15'09.doc; PA NOx Rule Letter from J Stas -10-12-09.pdf

FYI

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**From:** Huyett, Ted  
**To:** Kaufman, Kim  
**Cc:** Harris, Mary Lou; Wilmarth, Fiona E.  
**Sent:** Mon Dec 21 08:28:29 2009  
**Subject:** PGW, LLC Comments - Advanced Notice of Final Rulemaking #2683 - Control of NOx Emissions From Glass Melting Furnaces Final Rule  
Attached are comments to Advanced Notice of Final Rulemaking #2683 - Control of NOx Emissions From Glass Melting Furnaces. The comments are submitted to IRR by Pittsburgh Glass Works, LLC. Comments previously submitted to Jane Mahinske, DEP Division of Air Resource Management, Bureau of Air Quality are also attached.

Refer any difficulties in opening the attachments or questions to:

Ted Huyett  
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Email: [Thuyett@pgwglass.com](mailto:Thuyett@pgwglass.com)

Thank you for your consideration.

**Ted Huyett**

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**Effective December 31, 2009 all email directed to Ted Huyett must use my PGW email address:**  
**[THuyett@pgwglass.com](mailto:THuyett@pgwglass.com)**

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