

# LWB Refractories

May 26, 2006

Mr. J. Wick Havens  
Chief, Division of Air Resource Management  
Bureau of Air Quality  
PO Box 8468  
Harrisburg, PA 17105-8468  
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RE: Various Ozone Transport Region Measures under  
Consideration by the OTC and MANE-VU

Dear Mr. Havens:

These comments are in response to the April 28, 2006 PA Bulletin Notice, 36 Pa.B.2071 entitled Various Ozone Transport Region Measures under Consideration by the Ozone Transport Commissions and the Mid-Atlantic/Northeast Visibility Union; Public Meetings. That notice requested public comments and our comments are specifically for the limekiln category candidate control measures to reduce emissions from the 16 categories listed. LWB Refractories appreciates the opportunity to submit comments.

The current proposal for limekilns dated 3 May 2006 specifies a control strategy to utilize good combustion practices to reduce NO<sub>x</sub>. This has already been implemented in limekilns to comply with RACT standards in the mid 1990s. This has also been the BACT determinations for new limekilns as confirmed by the recent NSR/PSD applications approved by EPA and the respective states since 1994. In all cases post combustion control technologies were determined not to be cost effective or technologically feasible for limekilns.

The current information provided for the limekilns is not completely clear. At the public meeting I attended on 22 May 2006 in Harrisburg, the meeting handout, Status Summary for OTC Reasonable Control Measure Analysis dated for Feb 22-23 Special Meeting included SNCR for lime kilns at less than \$2,000 per ton of NO<sub>x</sub> removed. The current OTC candidate control strategy also in the handout and is in the attached CONTROL MEASURE SUMMARY FOR Lime kilns dated 3 May 2006 specifies Good Combustion Practices and kiln operation for a control cost of less than \$2,000 per ton. These practices have already been implemented and there is very little if any potential additional NO<sub>x</sub> reductions resulting from any additional measures. We question the basis of the \$2,000 per ton cost used in the proposal.

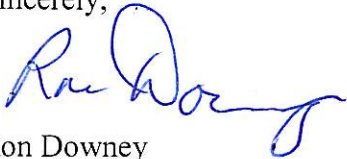
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We support the DEP and the OTC decision not to pursue additional limekiln controls at this time. However we want to be sure that the most current version (see attached) of the CONTROL MEASURE SUMMARY FOR Limekilns dated 3 May 2006 is considered.

If you have any questions please do not hesitate to contact me at 717-793-5426.

Sincerely,



Ron Downey  
Director, Environmental Compliance

Attachment: OTC Control Strategy for Lime Kilns dated 3 May 2006

**CONTROL MEASURE SUMMARY FOR  
 Lime Kilns**

<p><b>Control Measure Summary:</b> Good combustion practices and kiln operation for Lime Kilns. These kilns are used for the calcination of limestone. Lime kilns are also often associated with paper mills.</p>	<p align="center"><b>Emissions (tons/year) in Ozone Transport Region</b></p>							
<p><b>2002 existing measure: NSR; PSD; State RACT.</b>  <i>Emission Reductions:</i>  <i>Control Cost:</i>  <i>Timing of Implementation:</i>  <i>Implementation Area:</i> OTR</p>	<p align="center"><b>NOx</b></p> <table border="0"> <tr> <td>Uncontrolled:</td> <td align="right">4,649</td> </tr> <tr> <td>2002 Reduction:</td> <td align="right"><u>0</u></td> </tr> <tr> <td>2002 Base:</td> <td align="right">4,649</td> </tr> </table>		Uncontrolled:	4,649	2002 Reduction:	<u>0</u>	2002 Base:	4,649
Uncontrolled:	4,649							
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2002 Base:	4,649							
<p><b>Candidate measure: Good combustion practices and kiln operation</b>  <i>Emission Reductions:</i> Under Evaluation  <i>Control Cost:</i> less than \$2,000 per ton  <i>Timing of Implementation:</i> 01/01/09  <i>Implementation Area:</i> OTR</p>	<p align="center"><b>NOx</b></p> <table border="0"> <tr> <td>2009 Base including growth:</td> <td align="right">5,228</td> </tr> <tr> <td>2009 Reduction:</td> <td align="right"><u>TBD</u></td> </tr> <tr> <td>2009 Remaining:</td> <td></td> </tr> </table>		2009 Base including growth:	5,228	2009 Reduction:	<u>TBD</u>	2009 Remaining:	
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2009 Remaining:								
<p><b>Policy Recommendation of State/Workgroup Lead:</b> Continue to evaluate good combustion practices and kiln operation to reduce NOx.. It is recommended that a program be developed that tests combustion modifications for this category of sources. Continue to track emerging technologies and transfer of techniques applicable to cement kilns to the lime industry.</p>								
<p><b>Brief Rationale for Recommended Strategy:</b> This technology is now available and can be used across the variety of vertical and rotary kilns used in stand-alone operations and in conjunction with pulp mills and chemical processing.</p>								
<p><b>REFERENCES:</b></p> <p>European Commission, Integrated Pollution Prevention and Control (IPPC) Bureau. <i>Reference Document on Best Available Techniques in the Cement and Lime Manufacturing Industries.</i> December 2001. "The direct transfer of low-NO<sub>x</sub> burner technology from cement kilns to lime kilns is not straightforward. In cement kilns, flame temperatures are higher and low-NO<sub>x</sub> burners have been developed for reducing high initial levels of 'thermal NO<sub>x</sub>'. In most lime kilns the levels of NO<sub>x</sub> are lower and the 'thermal NO<sub>x</sub>' is probably less important."</p> <p>Northeast States for Coordinated Air Use Management. <i>Assessment of Control Technology Options for BART-Eligible Sources: Steam Electric Boilers, Industrial Boilers, Cement Plants, and Paper and Pulp Facilities.</i> March 2005. "Due to the design of the lime kiln, SNCRs and SCRs are not viable NO<sub>x</sub> reduction techniques. Installing low-NO<sub>x</sub> burners is also not a practical NO<sub>x</sub> reduction technique according to a BACT analysis conducted on a new lime kiln in 1997...combustion modification such as decreasing excess air is the best way to reduce NO<sub>x</sub> emissions".</p>								

**Stakeholder Comment Summary:**

Since 1998, BACT analyses of NO<sub>x</sub> controls have been prepared for 11 new commercial lime kilns that have been thoroughly reviewed by U.S. EPA, state and local agencies, and the public. They all reached the conclusion that add-on controls for NO<sub>x</sub> for new lime kilns are not technically or economically possible. Instead, permits for these new kilns define BACT as

efficient combustion practices, minimization of fuel consumption, and excess air for the combustion process, or some similar control techniques (see EPA Clearinghouse).

OTC's control measure summary should be revised to reflect the infeasibility of SNCR and SCR controls for lime kilns. This finding is consistent with all other authorities that have evaluated the potential application of NOx controls on lime kilns