

May 2, 2006

Contact – Subhash Shah

Workgroup Recommendations and Other Potential Control Measures
Stationary Combustion Sources Workgroup

SCS007 – Glass/Fiberglass Furnaces

Control Measure Summary:	Emissions (tons/year) in State of New Jersey	
<p>2002 existing Measure: NSR; PSD; State RACT. <i>Implementation Area:</i> New Jersey</p>	<p align="center">NO_x</p> <p align="center">2002 Uncontrolled (Includes state RACT):</p>	<p align="right">9,850 <u>0</u> 9,850</p>
<p>Candidate Measure 1: Low NO_x Burners <i>Measure ID:</i> LNBI <i>Emission Reductions:</i> 40 percent from 2009 projection <i>Control Cost:</i> \$ 924 to 2,232 per ton <i>Timing of Implementation:</i> 2009 <i>Implementation Area:</i> New Jersey</p>	<p align="center">NO_x</p> <p>2009 projected: 2009 Reduction: 2009 Remaining:</p>	<p align="right">11,820 <u>- 4,728</u> 7,092</p>
<p>Candidate Measure 2: Selective Non-catalytic Reduction (SNCR) <i>Measure ID:</i> SNCR <i>Emission Reductions:</i> 40 percent from 2009 projection <i>Control Cost:</i> \$ 977 to 2,337 per ton <i>Timing of Implementation:</i> 2009 <i>Implementation Area:</i> New Jersey</p>	<p align="center">NO_x</p> <p>2009 projected: 2009 Reduction: 2009 Remaining:</p>	<p align="right">11820 <u>- 4,728</u> 7,092</p>
<p>Candidate Measure 3: Selective Catalytic Reduction (SCR) <i>Measure ID:</i> SCR <i>Emission Reductions:</i> 75 percent from 2009 projection <i>Control Cost:</i> \$ 938 to 3,341per ton <i>Timing of Implementation:</i> 2009 <i>Implementation Area:</i> New Jersey</p>	<p align="center">NO_x</p> <p>2009 projected: 2009 Reduction: 2009 Remaining</p>	<p align="right">9,850 <u>- 7,388</u> 2,462</p>

Disclaimer – The recommendations contained within this white paper do not constitute official state decisions nor reflect any pending regulatory or nonregulatory actions. The NJDEP welcomes public feedback on this (or any other) white paper.

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<p>Candidate Measure 3: Oxyfiring <i>Measure ID:</i> Oxy <i>Emission Reductions:</i> 85 percent from 2009 projection <i>Control Cost:</i> \$ 1,254 to 4,400 per ton <i>Timing of Implementation:</i> 2009 and later <i>Implementation Area:</i> New Jersey</p>	NOx	
<p>Policy Recommendation of State/Workgroup Lead: Develop a control strategy that requires implementation of an “oxyfiring” program for each furnace at the next furnace rebuild, occurring at 6-8 year frequency. From 2009 to the completion of the furnace rebuild, the owner/operator could be required to purchase NOx allowances equal to 85% of the actual furnace emissions for the ozone season. Continuous emission monitoring systems would be used to determine emissions.</p>		9.850 - 8,737 <hr/> 1,113
<p>Brief Rationale for Recommended Strategy: Oxyfiring is best implemented, and provides the most effective NOx emission reductions, with a complete furnace rebuild. This control strategy is demonstrated technology and is in use by two glass plants out of eight (8) plants in New Jersey. Also, this strategy not only reduces NOx emissions by as much as 90 percent, but may reduce PM 2.5 emissions, energy consumption, increase production rates by 10-15%, and improve glass quality by reducing defects. Oxyfiring is and has penetrated into all segments of the glass industry, except Flat Glass sector.</p>		