

May 12, 2006

Contact – Michael Hogan

Workgroup Recommendations and Other Potential Control Measures
Stationary Combustion Sources Workgroup

SCS006B – No. 6 Fuel Oil-Fired EGU Boilers

<p>Control Measure Summary: Revise N.J.A.C. 7:27-9 to reduce the SO₂ emissions that are currently allowed for No. 6 fuel oil combustion (up to 95% SO₂ control).</p>	<p align="center">Emissions (tons/year) in NJ State</p>	
<p>2002/2009 existing measures: These units are typically peaking units, electric generating units that operate only during the peak energy demand. Peaking units operate during the hot summer days and generally operate for less than 500 hours per year and less than 10 hours per day, with less than 10% annual capacity factor. New Jersey currently has eight (8) No. 6 oil fired EGU boilers, with a heat input of 250 MMBtu/hr or greater. None of these boilers are currently equipped with any kind of SO₂ emission controls. Current limits on sulfur content in #6 fuel oil range from 0.3% to 2.0%, depending on the county. <i>*Based on DOE factors for energy consumption by electric generators, a growth factor of .737 was used to project 2009 emissions based on 2002 emission inventory data from sources at major facilities.</i></p>	<p>NO_x in 2002: NO_x in 2009:</p>	<p align="center">N/A N/A</p>
	<p>SO₂ in 2002: SO₂ in 2009:</p>	<p align="center">1530 tpy 1130* tpy</p>
	<p>PM in 2002: PM in 2009:</p>	<p align="center">N/A N/A</p>
<p>Candidate measure 1: Reduce N.J.A.C. 7:27-9 allowable SO₂ emissions from combustion of No. 6 fuel oil to 0.050% (500 ppm) sulfur content in the fuel oil, or 0.050 lb/MMBtu from the stack. <i>Control Example: scrubber</i> <i>Emission Reductions:</i> 95% reduction in SO₂ from 2002 levels in 2009. <i>Control Cost:</i> \$800 to \$1,500 per ton* <i>Timing of Implementation:</i> TBD, 0.3% sulfur limit statewide could be a first step. <i>Implementation Area:</i> New Jersey – statewide. <i>*Based on Midwest Regional Planning Organization (RPO) – Identification and Evaluation of Candidate Control Measures, “Table A.1 – SO₂ Control Measure Summary for EGUs”.</i> <i>**This reduction may be a subset of candidate reduction measure, HR001, for regional lower sulfur fuel oil control.</i></p>	<p align="center">NO_x 2009 Reduction: 2009 Remaining:</p>	<p align="center">N/A</p>
	<p align="center">SO₂ 2009 Reduction: 2009 Remaining:</p>	<p align="center">1070** tpy 60 tpy</p>
	<p align="center">PM 2009 Reduction: 2009 Remaining:</p>	<p align="center">N/A</p>
<p>Policy Recommendation of State/Workgroup Lead: Adopt rules reducing the N.J.A.C. 7:27-9 allowable SO₂ emission limit from combustion of No.6 fuel oil by up to 95%. This reduction can be achieved through installation of a scrubber, use of a low sulfur fuel oil or a combination of these methods.</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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Brief Rationale for Recommended Strategy:

No. 6 fuel oil has a relatively high sulfur content and therefore produces a large amount of SO₂ emissions. Installation of a scrubber has the potential to reduce SO₂ emissions by at least 95%. The OTC is also promoting this control method.

During 2002, New Jersey's EGU boilers with a heat input of at least 250 MMBtu/hr combusted 33.3 million gallons of No. 6 fuel oil. According to NJ's estimate, a 95% SO₂ emission reduction from all No. 6 oil fired EGU boilers, with a heat input of at least 250 MMBtu/hr, within the state, would have the potential to reduce SO₂ emissions by over 1,000 tons each year, from NJ alone.