

STAPPA/ALAPCO Comparison of State Multi-Pollutant Strategies for Power Plants

April 29, 2003

	Connecticut	Massachusetts	New Hampshire	North Carolina	New York	Illinois
Applicability	All NO _x Budget Program (NBP) sources: >= 15 MW or >= 250 MMBTU/hr	Six specific power plants in Massachusetts	All pre-2001 fossil fuel-burning power units with nameplate capacity of 25 MW or more	Coal-fired generating units with capacity to generate 25 MW or more (all 14 plants, regardless of age)	NO _x – NO _x Budget Program electricity generators (25 MW); SO ₂ – Title IV sources	Fossil fuel-fired electric generating plants
Pollutants	NO _x , SO ₂	NO _x , SO ₂ , CO ₂ , future mercury	NO _x , SO ₂ , CO ₂ , future mercury	NO _x , SO ₂ , CO ₂ , mercury	NO _x , SO ₂	NO _x , SO ₂ , CO ₂ , mercury
Emission Limitations	Aggregate across state	Facility-specific reductions	Aggregate across state	Statewide mass emissions cap per company by pollutant; annual report to legislature on tech. and econ. feasibility of controls beyond limits, starting 9/04	Aggregate across state	Illinois EPA directed to make recommendations on emissions limitations; report due no later than 9/30/04
NO_x	7-month non-ozone season program (developed to compliment existing 5-month ozone season program); 0.15 lb/MMBtu avg over 7-month period	1.5 lbs/ MWhr by 10/1/04 or 10/1/06	Annual program; 70% reduction; 3,644 ton cap & trade; 1.5 lb/MWhr applied to 1999 outputs by 12/31/06 (90% lower than 1990 emissions)	Cap of 60,000 tons 1/1/07; 56,000 tons by 1/1/09 (77% reduction from 1998 levels)	7-month non-ozone season (1999 heat inputs x 0.15 lbs/MMBtu x growth); starting 10/04 (39,908 tons)	Illinois EPA to make recommendations
SO₂	Phase I (all NBP sources): 0.5% sulfur-in-fuel or 0.55 lb/MMBtu by 01/01/02 Phase II (NBP sources that are also Acid Rain Program sources): 0.3% sulfur-in-fuel or 0.33 lb/MMBtu by 01/01/03	6.0 lbs/MWhr by 10/1/04 or 10/1/06; 3.0 lbs/MWhr by 10/1/06 or 10/1/08	3.0 lb/MWhr applied to current outputs by 12/31/06; 75% from Phase II Acid Rain; 87% reduction from 1999 emissions; 7,289 ton cap-and-trade	Cap of 250,000 tons by 1/1/09; 130,000 tons by 1/1/13 (73% reduction from 1998 levels)	Phase I – 25% below statewide Title IV allocation in 2005 (197,046); Phase II – 50% below Title IV (131,364)	Illinois EPA to make recommendations

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Mercury	State legislation is pending to limit mercury from coal-fired power plants; PSEG has committed to voluntary reductions from its one coal-fired unit. CT has also focused on mercury reductions from MWCs that go well beyond federal requirement	Feasibility study completed 12/02; proposed standard by 6/1/03	Emissions testing by 7/1/03; proposed cap by 3/31/04	Report to legislature annually beginning 9/1/03; final recommendation by 9/1/05. Recommendation focus on controls beyond those achieved incidentally with the SO ₂ /NO _x controls		Illinois EPA to make recommendations
CO₂	To address through environmental performance standards (EPS) applied to retail sale of electricity [will also cover NO _x , SO _x , mercury]. Also developing a CT Climate Change Action Plan (by 11/03) to help meet the CO ₂ targets set by NEG/ECP. Such plan may include participation in a regional cap-and-trade program.	1800 lbs/MWhr by 10/1/06 or 10/1/08; emission cap based upon historical emissions by 10/1/04 or 10/1/06	Return to 1990 levels by 12/31/06; (3% below 1999 emissions)	Report to legislature annually beginning 9/1/03; final recommendation by 9/1/05.	Governor's Task Force established in June 2001 to recommend greenhouse gas actions	Illinois EPA to make recommendations on establishing a banking system for voluntary reductions
Other Pollutants		"Reserved" fine particulate & carbon monoxide emission standards	Future particulates, if necessary			
Status	Regulations promulgated 12/28/00	Regulation effective 5/11/01	Governor Shaheen signed the Clean Power Act into law on May 9, 2002. Implementing regulations should be finalized May 2003.	Bill passed state Senate April 2001; passed House with revised cost-recovery mechanism June 2002. Governor Easley signed the	Regulations – Title 6 NY CRR Parts 237 and 238 – Approved by the State Environmental Board on March 26, 2003; Filed with the	Legislation requires Illinois EPA to make recommendations by 9/04.

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				Clean Smokestacks Act into law on June 20, 2002. (www.ncga.state.nc.us/html2001/bills/AllVersions/Senate/S1078vc.html)	Secretary of State on April 17, 2003 (effective 30 days later); and, expected to be published in the <u>State Register</u> on May 7, 2003.	
Averaging & Trading Provisions	SO ₂ : sources may average at facility, but must meet more stringent limits if they choose to do so.	Averaging across units at a facility (all pollutants); limited SO ₂ allowance use (see below); offsite reductions acceptable toward CO ₂ compliance	Averaging across units at single facility or site or among units at different facilities owned by same company. Combination of minimum on-site mercury reduction req. & limited averaging for mercury	Annual cap on each company's; can average across plants	Statewide cap-and-trade program.	Legislation mentions emissions trading for SO ₂ and NO _x
Use of Allowances	NO _x : sources may use NBP allowances or NO _x discrete emissions reduction credits (DERCs) to meet 7-month avg; SO ₂ : sources may use SO ₂ DERCs (1:1 ratio) or SO ₂ acid rain allowances (4:1 ratio) to cover difference between Phase I & II limits in 2003 and 2004. Legislation has removed SO ₂ trading options beginning in 2005.	SO ₂ allowances at a ratio of 3 to 1 may be used for second phase of SO ₂ reductions	Allowances for NO _x , SO ₂ , & CO ₂ ; bonus incentive allowances awarded for local SO ₂ reductions, nearby SO ₂ allowance purchases, and energy efficiency and renewable energy expenditures	Companies will transfer to state all emission reductions credits generated from going beyond federal requirements; credits to be held in trust by state and can be used only by upon future decision of General Assembly	Allocated 3 years ahead via formula based on highest heat input from previous 3 years. 5% of state budget can be created through out-of-state reductions beyond current requirements, discounted by 3:1 and, for SO ₂ , forfeiture of federal SO ₂ allowances	
Monitoring Requirements	Part 75	Follow Part 75; mercury TBD	Follow Part 75; mercury TBD	Part 75 to be used, but not specified in legislation	Follow Part 75	

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Record-keeping & Reporting	Annual reports on compliance - NO _x & SO ₂	Annual report documenting compliance	Annual report documenting compliance	Part 75 to be used, but not specified in legislation	State to Utilize Reporting to EPA CAMD.	
Credit for Early Reductions	Provisions for early in-state reductions of SO ₂	Provisions for early SO ₂ reductions; CO ₂ under consideration	Provisions for banking early reductions for all 4 pollutants	No specific incentives, but all actual/permanent reductions count toward cap	Early reductions eligible to create allowances for 2 years before start of program	
Credit for Renewable Energy/Conservation	Distributed generation general permit to address CHP & efficiency. Modification to current NBP rule to create a set-aside pool as an incentive for renewable energy and efficiency measures is being drafted.	Likely to be considered for CO ₂ provisions	Incentives for renewable energy and efficiency	Emission reductions resulting from use of renewables or conservation will count toward cap	3% energy efficiency/renewable energy and 5% NO _x new source (3% for SO ₂) set asides	Illinois EPA to make recommendations on incentives to promote renewable energy to meet the goal of 5% of energy production and use from renewables by 2010 and 15% by 2020
Localized Reductions	Sources must meet Phase I SO ₂ reductions on-site. Phase II SO ₂ reductions will be met on-site beginning in 2005.	NO _x reductions on site; SO ₂ reductions to 6 lbs/MWhr on site use of allowances or on site to 3 lbs/MWhr; CO ₂ offsite OK	Incentives for localized reductions	Local control necessary for ambient stds; can restrict emissions from a plant or limit intrastate averaging. Additional emission reductions and associated cost recovery would occur only after 5 years.	Questions as to whether still need NO _x RACT need to be answered.	Approach on mercury should be sufficient to prevent unacceptable local impacts
Carbon Sequestration		Will be considered				Greenhouse gas banking system may include carbon sequestration