

**Appendix L**

**Pollution Control Costs**



## Appendix L

### Pollution Control Costs

The costs for adding flue gas desulfurization equipment (scrubbers) are specific to each plant in the model. The costs generally vary with plant size (it is less expensive for larger plants) and an assessment of the difficulty of retrofitting the specific plant. On average, scrubber retrofits cost \$195 per kilowatt (in 1997 dollars).

The cost assumptions for NO<sub>x</sub> controls are from the U.S. Environmental Protection Agency (EPA) report, *Analyzing Electric Power Generation Under the CAAA*.<sup>83</sup> Table K1, reproduced from the EPA report, provides the cost and performance parameters assumed for post-combustion NO<sub>x</sub> controls for coal-fired power plants.

**Table L1. Post-Combustion NO<sub>x</sub> Controls for Coal-Fired Power Plants**

Post-Combustion Control Technology	Capital (1997 Dollars per Kilowatt)	Fixed O&M (1997 Dollars per Kilowatt per Year)	Variable O&M (1997 Mills per Kilowatthour)	Percent Gas Use	Percent Removal
SCR (Low NO <sub>x</sub> Rate) . . . . .	69.70	6.12	0.24	—	70
SCR (High NO <sub>x</sub> Rate) . . . . .	71.80	6.38	0.40	—	80
SNCR (Low NO <sub>x</sub> Rate) . . . . .	16.60	0.24	0.82	—	40
SNCR (High NO <sub>x</sub> Rate, Cyclone) . . . . .	9.60	0.14	1.27	—	35
SNCR (High NO <sub>x</sub> Rate, Other) . . . . .	19.00	0.29	0.88	—	35

Assumptions: Low NO<sub>x</sub> Rate <0.5 lb/MMBtu; High NO<sub>x</sub> Rate ≥0.5 lb/MMBtu. Scaling factor for coal SCR = (200/MW)<sup>0.35</sup>, economies of scale assumed up to 500 MW. Scaling factor for low-NO<sub>x</sub> coal SNCR = (200/MW)<sup>0.577</sup>, economies of scale assumed up to 500 MW. Scaling factor for High NO<sub>x</sub> Coal SNCR, cyclone = (100/MW)<sup>0.577</sup>; variable O&M costs = 1.27 for ≤300 MW, 1.27 - ((MW - 300)/100) x 0.015 for >300 MW. Scaling factor for high-NO<sub>x</sub> coal SNCR, Other = (100/MW)<sup>0.681</sup>; variable O&M costs = 0.88 for ≤480 MW, 0.89 for >480 MW. Gas Reburn includes \$5.2/kW charge for pipeline.

Sources: All estimates taken from the Bechtel report, except gas reburn, which is based on the Acurex Report.

<sup>83</sup>U.S. Environmental Protection Agency, *Analyzing Electric Power Generation Under the CAAA* (Washington, DC, March 1998).