

Customer	Utility
Service	Technical and Economic Feasibility Assessment



Strategic Solutions
SSI Associates, Inc.

Technical/Economic Feasibility Assessment – APC Systems for Utility Boilers

Technical feasibility and budget costs for particulate, NO_x and SO₂ control systems for a utility retrofit.



Challenge

A US mid-western utility needed to develop both a system-wide strategy and plant-specific plans for compliance with Phase 2 of the Clean Act Amendment (CAA). This would require installation of flue gas desulfurization (FGD) systems at a number of their facilities as well as NO_x emissions reductions and enhanced particulate controls. Two of their generating stations that required significant emissions reductions constituted the cornerstone of their overall strategy. The utility called upon the staff of Strategic Solutions to assist them in identifying the most applicable particulate and SO₂ control technologies and preparing budget estimates. The analysis assumed that selective catalytic reduction would be implemented for deNO_x.

Approach

Strategic Solutions services covered four sequential activities.

- **Technology Screening** – Performed a comprehensive review of all commercially available technologies. Over 70 processes were addressed in 26 categories. Each technology was screened with regard to applicability to meet the required performance objectives. Three technologies combining particulate and SO₂ control were selected for development of budgetary costs
- **Budgetary Costs** – Budgetary costs were prepared for each of the three technology combinations as applied to each station. Site-specific factors were incorporated in the cost estimates, such as the need for plume dispersion at one of the sites to preclude ground level impacts in residential and recreational areas.
- **Technology Supplier Selection** – Assisted in the identification and final selection of a technology supplier for the preferred technology.
- **Installation Requirements** – Worked with utility staff and the technology supplier to finalize preliminary designs and associated costs. Significant effort was directed toward reagent supply and costs, and waste quantities and disposition costs.

Value/Result

- Identified the most appropriate technologies for application to the utility's site.
- Developed reliable site-specific costs in concert with technology supplier preliminary designs.