

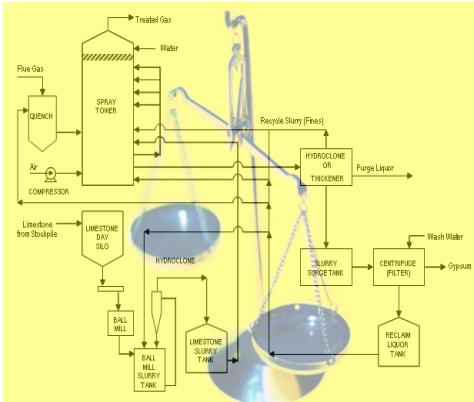
Customer	Engineering/Procurement/Construction Firm
Service	Environmental Technology Troubleshooting



Strategic Solutions
SSI Associates, Inc.

Technology Troubleshooting and Legal Support

Correction of performance and operational problems for an SO₂ emissions control system and support in recovering costs



Challenge

An international engineering/procurement/construction (EPC) firm contracted with an environmental technology supplier to provide particulate and SO₂ control systems as part of a major upgrade program for two production lines at a client’s metallurgical facility. The technology selected was limestone slurry forced oxidation (LSFO) using a combination of a venturi scrubber for gas cooling and particulate removal followed by an open spray tower. Upon startup, the systems experienced severe scaling problems and could not achieve performance requirements relative to SO₂ removal, byproduct solids properties or closed loop water balance. The technology supplier spent over a year attempting to correct the problems. The EPC firm finally engaged Hatch Associates and Strategic Solutions to provide assistance in resolving the problems.

Approach

In concert with Hatch Associates, Strategic Solutions undertook a three step process to: identify the root causes of the problems; determine corrective actions through design changes and operational adjustments; and assist in recovery of costs from the technology supplier.

- 1. Problem Assessment** – Together, Strategic Solutions and Hatch staff reviewed the design specifications and the details of the technology supplier’s designs. They met with the Owner and EPC to develop an operating history for the systems; and instituted a sampling/analysis program. It was determined that the technology installed was appropriate to the application, but that there were numerous deficiencies in both the equipment and controls. Over two dozen significant defects were identified in the original design, about half of which had been corrected by the supplier and EPC. The remaining problems, though, rendered the system incapable of achieving performance or providing acceptable operability.
- 2. Development of Corrective Actions** – Rather than completely replace the systems, Strategic Solutions recommended three equipment design modifications and several adjustments to controls and operating procedures. Strategic Solutions then worked with designers at Hatch Associates to develop the details for the equipment modifications.
- 3. Recovery of Costs** – Strategic Solutions worked with the EPC’s legal counsel to recover costs from the technology supplier. This included expert testimony during mediation hearings.

Value/Result

- Reduced scaling in the scrubbing system to an acceptable level that allows prolonged operation without shutdown for descaling.
- Improved SO₂ removal to attain the required performance levels.
- Eliminated the need for the water purge and improved solids properties for adequate dewatering.
- Enhanced overall operability of the systems.
- Recovered the cost of equipment modifications and a significant portion of the EPC’s redesign work from the technology supplier.