



METAL FABRICATION.



A National Leader in
Custom Industrial Metal Fabrication



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A global power group contracted Ci Metal Fabrication, a nationally recognized leader in custom industrial metal fabrication, to fabricate three Submerged Scraper Conveyors (SSCs) and two Remote Submerged Scraper Conveyors (RSSCs) for a power plant located in South Carolina.

An alternative to traditional wet bottom ash hoppers and slurry systems, a SCC continuously removes bottom ash from conventional coal-fired boilers and is particularly suited for high ash rates and boiler slags. Ideal where headroom is limited, the system is capable of quenching and transporting more than 100 t/h of ash and offers higher energy efficiency than hydraulic systems of comparable capacity.

A remote SSC, or RSSC, consists of a conventional SSC modified to include a slurry processing system. This allows it to be located remotely from the associated boiler at or slightly above grade level rather than directly under a boiler (like a conventional SSC).

Ci Metal Fabrication took on the task of fabricating the five submerged scraper conveyors at its 57,000- square-foot manufacturing facility located in Meridian, Miss. The highly-skilled craftsmen fabricated the large, sophisticated SSCs and RSSCs through plasma cutting, press brake bending, beveling, welding, drilling, torch cutting and shearing.

The fabrication project presented a few challenges. The size and weight of the equipment made it difficult to handle throughout the fabrication process. Additionally, the project required the sandblasting and painting to be completed in fair weather conditions. Relying on specific weather conditions causes interruptions in project completion.

Each SSC and RSSC finished at approximately 14-foot-wide by 16-foot-tall by 200-foot-long, weighing about 275,000 pounds each. The conveyors allow a controlled collection and disposal of ash, which promotes the end of ash pond usage. The SSCs allow power plants to recycle the coal ash which conserves natural resources and saves energy.

After shipping the five SSCs and RSSCs, the engineering consultant using the OEM's SSC design through a licensing agreement, placed another order with Ci Metal Fabrication for one scraper and transition chute. This new order contained modifications to the original SSCs purchased because of the challenges during the field install. During this round of fabrication, Ci Metal Fabrication split the SSC modules into smaller sections and changed the material of the transition chute to nickel alloy as a less corrosive alternative. The previous transition chutes were fabricated with carbon steel and were decaying due to the acidic environment they are housed in.

The project was finished on time and shipped to the customer for installation. Ci Metal Fabrication's consistency in quality, competitive pricing and on-time delivery has resulted in earned trust and consistently winning these contracts for the same end user.

