



PROBLEM SOLVED™ PAPER

SOLUTION: Martin QB1™ HD, QC1 HD and DT2S™ Belt Cleaners

INDUSTRY: Coal-Fired Power & Steel

LOCATION: Bhushan Power & Steel Plant, Thelkoloji, Sambalpur, Odisha (India)



Ineffective belt cleaning led to extensive carryback, which accumulated all along the return run.



To replace the QB1 blade, one worker simply pulls the locking pin, unclamps the bracket and slides it out.



The DT2S features tungsten-tipped rubber blades to withstand medium-duty applications.

PROBLEM

The Bhushan Power & Steel Plant in Thelkoloji, Sambalpur, Odisha (India) was experiencing extensive belt cleaning issues on conveyors CW2C1 & J32C1 (CW-2), which transport approx. 2.5 million tons of coal per year. Inefficient cleaning resulted in significant carryback and material loss along the return path, while also contributing to premature component wear, increased clean-up time and higher manpower costs. Further, the accumulation created potential safety hazards from clean-up efforts near the moving conveyor, as well as trips and falls. Management wanted to find a solution that controlled carryback and the resulting maintenance time, returning lost material to the cargo stream and improving overall efficiency.

SOLUTION

After conducting a thorough inspection of both conveyors, the Martin Engineering India team installed a QB1™ HD Primary Cleaner on one conveyor and, QC1 HD Primary and DT2S Secondary cleaner on another. Manufactured with the company's unique "CARP" (Constant Angle Radial Pressure) technology to maintain the most efficient cleaning angle through out its service life, the Martin® primary belt Cleaner features a no-tool replacement process that can be performed safely by one person in less than five minutes. Installed directly after the primary cleaner is the Martin DT2S secondary belt scraper featuring rugged individually-cushioned tungsten carbide blades installed on a track that slides into position on a rigid steel mandrel.

RESULT

The cleaning solution has proven very effective, dramatically reducing carryback and the associated clean-up time, allowing personnel to concentrate on core business activities. Potential safety hazards have been minimized, and overall conveyor maintenance time is expected to drop by preventing dust and spillage from affecting other components such as idlers, motors and pulleys. Both of the unique cleaner designs were engineered for easy service and quick blade replacement, further improving the overall efficiency of the operation. The components have been so successful that plans are now in place to replace additional cleaners on other conveyors on site.

