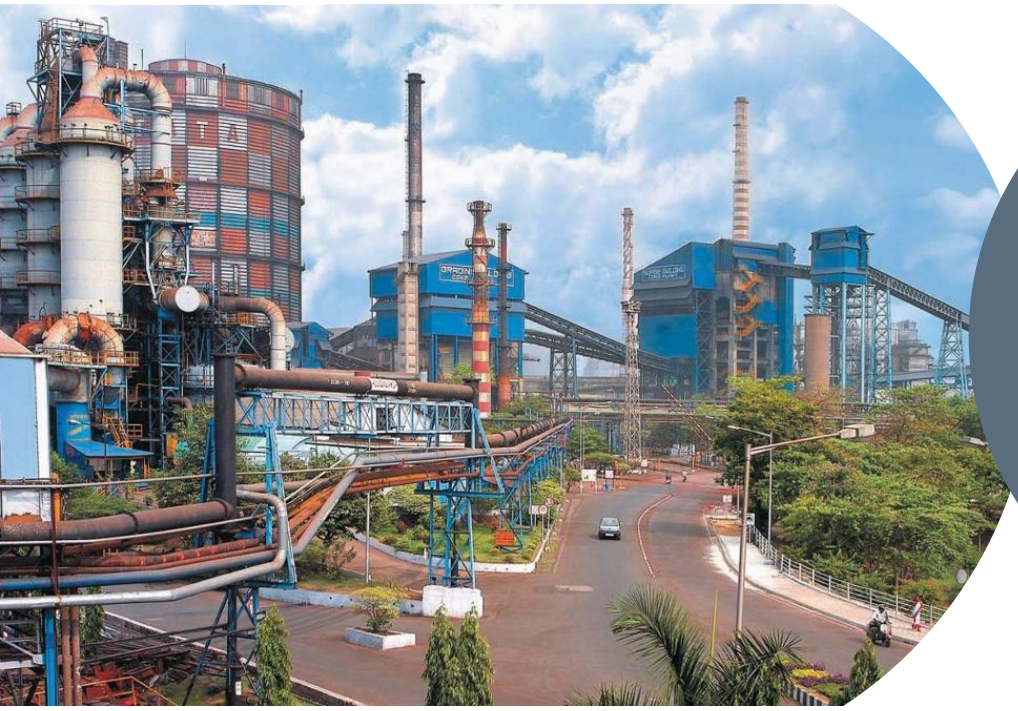
Intelligent Scrapers for Reversible Belts



Plant: 10 MTPA Steel Plant in India

Application Area: Shuttle conveyor in Blast Furnace- 1400mm Belt width

CS/21-22/013

Problem

- Heap of carryback spillage led to an unsafe working environment.
- Spillage accumulation restricted movement of the shuttle conveyor.
- Manpower was engaged on a weekly basis to clean spillage.
- Unscheduled shutdowns hampered productivity.

Identification of problem

The blades of the conventional reversible belt scraper were at 90 degree contact with the belt. This resulted in excessive vibration and carryback spillage.

Solution Provided

- 2 sets of each B6-C RE & HDPUL scrapers were proposed as a solution to the aforementioned problems.
- The blades of the auto-adjusting B6-C RE are designed in such a way that the blades are always inclined against the direction of the belt travel even when the belts are reversing. This in turn increases the pulling stability resulting in much lower vibration and superior belt cleaning.

Results Obtained

- Monthly spillage accumulation reduced from 0.96 ton to 0.38 ton with a consequent reduction in material loss.
- Cleaning & maintenance man-hours reduced from 152 hours to 12 hours a month.
- On average 48 hours of unplanned shutdowns were reduced every month.
- Customer made an annual savings of 0.22 mn INR.