Tripper to Stacker / Bypass

Industry
Iron Ore Port

Application
1-on-2 switching transfer designed to transfer material to an elevator belt or "trip" back onto itself
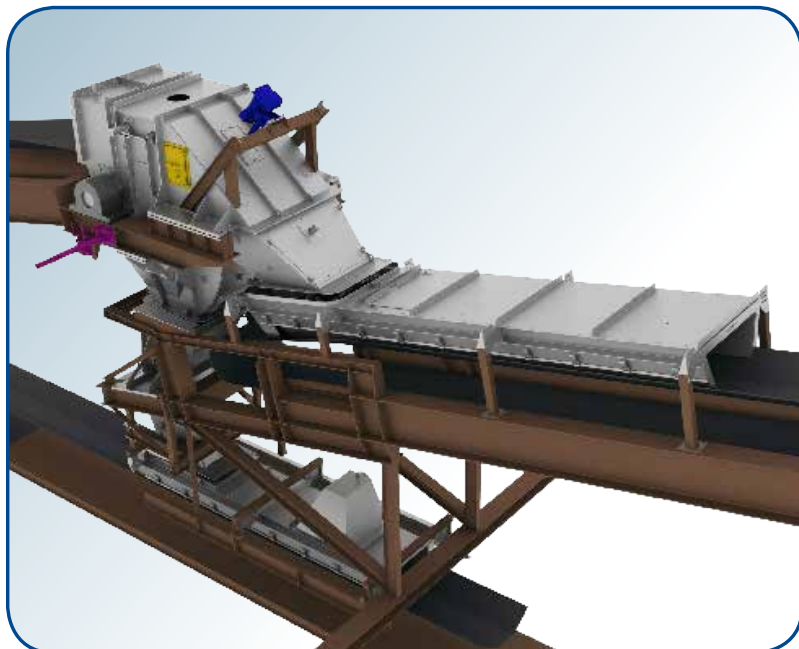
Material
Taconite (iron ore) pellets

Objective
To replace the existing transfer with a chute system that allows for on-the-fly switching as well as higher throughput.

Transfer Detail
1-on-2 transfer chute with an actuated hood and 48" belts

Challenge

The port needed a transfer system that could handle the increased volume the facility was experiencing. The old chute did not work well when it came to controlling the flow of the taconite pellets. This led to spillage and dust generation, but the main problem was plugging at higher throughputs. This was unacceptable for the port's operations group. They needed a transfer system that would give them the necessary throughput as well as the flexibility to stack out or bypass.

Tasman WARAJAY TECHNOLOGY

Flexco Solution

Flexco designed and fabricated a switching transfer that allows material from the main belt to be transferred to the Elevator Belt of a Stacker (Stacking Mode) or back onto the main belt (Bypass Mode).

When transferring material to the Elevator Belt, the material is launched from the feed belt, collected and controlled, and loaded onto the receiving belt. This type of transfer is referred to as a "ski jump" because of the way the material is allowed to freely flow from the main belt to the Elevator Belt. When transferring back to the main belt (Bypass mode), the actuated hood is rotated into a vertical discharge position that directs the material back to the main belt.

Result

The customer has been able to increase the **throughput** rate from 3,600 tph with the old system to 4,200 tph with the Flexco chute, a **17% increase**! When they are loading rail cars direct and running material through the Flexco chute, the increased rate amounts to them being able to load an additional 5-6 cars per hour.