

Barge Unloading to Conveyor

Industry

Coal Fired Power Generation

Application

Barge Unloading System

Material

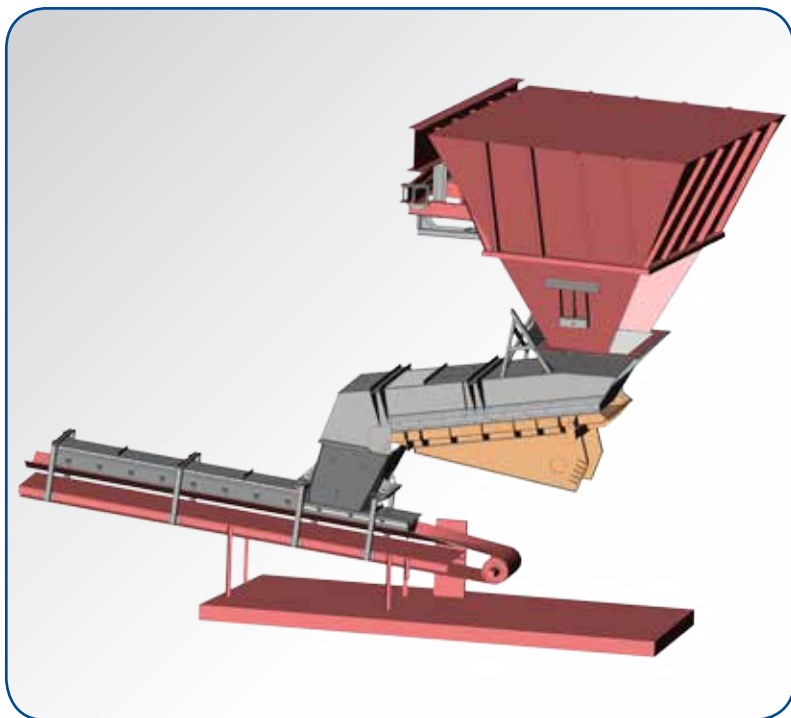
Powder River Basin Coal

Objective

- Increase capacity
- Eliminate barge delays
- Eliminate violations for coal spillage into river
- Improve housekeeping and safety by reducing material spillage and dust generation

Transfer Detail

Barges are unloaded with a clamshell bucket. The coal is then dropped into a hopper and fed onto a vibratory feeder that discharges coal through a chute and onto a conveyor. That conveyor feeds into the power plant or storage yard.



Challenge

The old feeder and chutes on a barge unloading system could not consistently meet the desired feed rate of 1,200 tph and was prone to “flushing” wet material. Spillage and chute problems (buildup, plugging, and leaking) were common. Frequently, these problems resulted in costly delays in ship unloading operations.

Additionally, coal spilled on the ground caused a safety hazard, and coal washed into the river was a violation. The facility incurred excessive housekeeping costs to keep the area around the chute in a suitable condition.



Flexco Solution

Flexco designed, fabricated, and supplied a system consisting of a feed chute, vibrating feeder, and discharge chute created with Tasman Warajay Technology™.

Result

With proper loading of the new feeder, flow rates have increased the system capacity of 1,200 tons per hour. The system is lined with chrome carbide and ceramic liners for wear resistance. The system has been in operation for several shipping seasons with no maintenance required on the liners. The material flow path provides for efficient material handling with little coal spillage, as well as minimal dust generation.

This facility is spending minimal time maintaining the transfer chute and cleaning up spilled material around it. This provides for efficient and cost-effective operations and allows the facility to unload ships without costly interruptions for chute repair.

10351 Rising Court • Woodridge, IL 60517 U.S.A.
Tel: 1-815-609-7025 • Fax: 1-815-609-0566

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