

DOS SANTOS IMPROVEMENTS TO IHI SHIPLOADER BOOM

Description

default watermark

THE CHALLENGE

An existing IHI shiploader, equipped with an 84-inch-wide belt conveyor handling 6,000 tons per hour of coal, was experiencing multiple operational problems:

- Frequent transfer chute plugging and excessive material spillage
- Belt misalignment resulting in premature belt damage
- Poor belt splice life and repeated re-splicing
- Insufficient gravity take-up travel

A comprehensive engineering evaluation identified several conveyor design deficiencies contributing to these ongoing problems.

THE ENGINEERED SOLUTION

Dos Santos International was contracted to provide complete, detailed engineering for a series of targeted improvements, including:

- **Larger Pulleys:** New pulleys incorporated into the conveyor upgrade.
- **Take-Up System Improvements:** An additional screw take-up system designed to reset available gravity take-up travel.
- **Idler System Replacement:** An entirely new garland idler structure.
- **Transfer Chute Redesign:** Improved material flow onto the shiploader boom conveyor.

- **Material Containment Improvements:** Belt-riding skirts and a redesigned convex curve over the boom hinge to help settle material onto the belt.

THE VALUE OF RETROFIT ENGINEERING

This project illustrates how a thorough engineering assessment can uncover the underlying causes of persistent conveyor problems and provide a practical path toward improved operation.

Rather than starting over, carefully engineered modifications can help operators address recurring maintenance issues, improve material handling, and extend the useful life of existing assets.

BEFORE YOU REPLACE IT, LET US ENGINEER A BETTER SOLUTION

DS Engineering provides mechanical and structural engineering services for existing conveyor and bulk material handling systems, including equipment evaluations, troubleshooting, retrofits, upgrades, modifications, and plant improvements.

default watermark

Contact DS Engineering to discuss retrofit and modernization solutions for your existing conveyor system.

Category

1. Articles
2. Blog
3. Structural & Mechanical Engineering
4. Tunneling

Date Created
November 12, 2026
Author
amy-duncan