CARGO PORT HIGH-ANGLE CONVEYOR ENGINEERING FOR FERTILIZER SHIPLOADER

Description

Industry: Ports & Terminals | **Service:** Conveyor Engineering & Analysis

THE CHALLENGE

A cargo port required a conveyor system to lift 600 t/h of fertilizer material 12.9 meters from the existing dock conveyor to the outgoing shiploader, within a footprint of just 29 meters. Three constraints had to be satisfied simultaneously: maintain the existing dock footprint, eliminate intermediate transfers and the spillage that accompanies them, and achieve the required elevation at a 40-degree conveying angle. The shiploaderâ??s slewing and luffing action at the head end added further complexity to the design.

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THE SOLUTION

DSE engineered a high-angle conveyor system incorporating an Adder Snake transition, which allows a narrower conventional dock conveyor belt â?? along with its material load â?? to be smoothly swallowed into wider sandwich belts without an energy-consuming transfer point. The material enters the sandwich belts with minimal disturbance and is conveyed to the shiploader at the required elevation.

The system was designed to accommodate the slewing and luffing action of the shiploaderâ??s head end, and incorporated a limited tail pulley size and compact discharge design to work within the portâ??s spatial constraints.

RESULT

The engineered conveyor system met all three project requirements: the existing dock footprint was maintained, intermediate transfers were eliminated, and material is elevated at the required rate within the 29-meter footprint available.

Contact DSE to discuss conveyor engineering for port and terminal applications.

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