

Derailed Coal Stacker Recovery - Emergency Structural Engineering and Lift Planning

Description

Industry: Energy & Power | **Service:** Lift Planning & Rigging Engineering, Structural & Mechanical Engineering

The Challenge

Extreme high winds swept through a power plant stockyard and propelled an unsecured coal stacker down its track, through the end stops, until it came to rest on a hillside. The stacker's yard conveyor truss and drive house were crushed beneath it. The forward travel gear was buried in the earth; the rear travel gear dangled from the gantry structure. Substantial additional damage from weather exposure and coal-related corrosion was also found on inspection.

The plant needed an engineering-led recovery plan to lift the stacker back onto its rails, support it stably while repairs were made, and return the unit to productive operation as quickly as possible.

The Solution

DSE was engaged to assist in developing the plan to lift the stacker back onto its rails and to design the temporary support stands required at the forward corners where the travel gear had been destroyed.

DSE issued a detailed inspection report covering all damage - accident-related and pre-existing - with specific repair recommendations. Temporary steel corner support stands were engineered to support the stacker stably while the destroyed travel gear was repaired or replaced.

Crane access presented additional challenges. At the coal storage side, one of three cranes had to be positioned at the toe of the coal pile - a wet area with poor soil bearing capacity. DSE specified timber mat installations to spread the crane load to an acceptable ground bearing pressure. A retaining wall adjacent to the crane position was analyzed for the consequential lateral pressure and found to be adequately protected by backfilling with compacted crushed stone on the rear face.

Result

The stacker was successfully lifted and placed on DSE-designed steel support frames. The project was completed in a timely manner, allowing the plant to proceed with repairs and return to operation.

Contact DSE to discuss emergency structural engineering and recovery planning for industrial equipment.

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