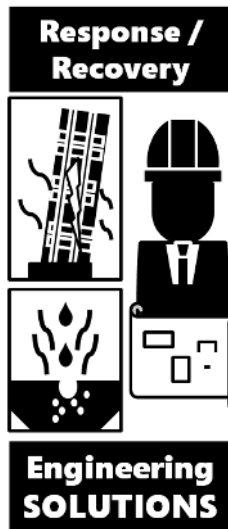


DSI ENGINEERING – COAL/GAS FIRED POWER

RECOVERY & REPAIR PLAN OF DERAILED STACKER_[W10211-002]

CHALLENGE: Develop and design a recovery and response plan to repair and return the coal stacker to its operating position in order to return the power plant to productive operation.

SOLUTION: The project focused on engineering accurate lifting, alignment, and support design, to facilitate the return of the stacker onto its rails, as well as developing repair plans for damaged components of the stacker.



Sudden extreme high winds overtook the plant stockyard and subsequently swept away an unsecured coal stacker. The stacker was propelled southward down the track and traveled through the end stops, until finally coming to a rest. Tilted on the hill side with the yard conveyor truss to the drive house crushed beneath it, the stacker's forward travel gear was found buried into the earth and its back travel gear dangling from the gantry structure.

DSI was tasked with assisting in the plan to lift the stacker back onto its rails and designing temporary support stands to support the forward corners where the travel gear was destroyed. Inspection revealed much damage, chiefly caused by the accident but also a substantial amount was due to weather exposure and coal related corrosion. Crane specialists were contracted to develop a rigging plan and DSI issued an inspection report with recommended repairs and designed temporary corner support stands, in addition to special required repairs.

Crane accessibility and secure support conditions were a challenge. At the coal storage side (west side), one of three cranes would be placed at the toe of the coal pile, which proved to be a very wet area with poor soil bearing capacity. Timber mats were required to be installed to spread the crane load. Additionally the consequential lateral pressure was imposed against a retaining wall just past the track beam.

The retaining wall problem was solved by merely back filling the back side with packed crushed stone. The lifted stacker was placed on steel frames of DSI design. The project was completed timely and successfully.



Figure 1: De-Railed Stackers



Figure 2: Temporary steel support