Substantial Cost Savings Achieved As Konecranes Upgrades Old Wolff Crane

A 35 T/15 T Wolff Crane, that was installed in a local metal plant in 1989, was recently upgraded by Konecranes. The modernisation of the Wolff Crane, which cost considerably less than replacing the crane, had become not only a performance and financial liability, but raised concerns about operational safety.

Originally designed and built by Wolff Cranes as a 35T/15T class 4; double girder 18m span crane, it was
used as a hot metal crane with two other 35T/15T Asea Cranes, that were modified in 1990. Emergency brake systems were also added to all of the plants hot metal cranes.

“Once the Crane Reliability Study had been completed and the report findings fully discussed with the customer, it was agreed that it was more practical to have the complete crane transported to the Demag workshop due to the challenges of repairing girders on site and how that could interfere with plant operations” said Alwyn Rautenbach, Project Engineer, Konecranes.

“Upgrading, or modernising cranes is a more cost-effective option than purchasing new systems and crane elements. The modernisation process is not restricted to older machinery either, it can be applied to plant expansion plans or increased production requirements. In this particular instance, the benefits to the customer of upgrading was a large reduction in safety risks, increased uptime of the crane, nearly 50% cost savings and the extension of the crane’s lifespan” he said.

Scope of Modernisation

Based on the analysis report, Konecranes modernised the Wolff Crane through the design and manufacture of a completely new crab assembly that would fit into the existing girders. The existing girders were also repaired, shot blasted and painted at the Konecranes factory. Konecranes designed a new long travel drive unit to replace the outdated drive, as well as a new E-House which replaced the old Pyromex controls with ABB drives. All of these elements were designed to fit the customers’ existing crane.

“A Crane Reliability Study is an important element that must be undertaken in order for us to properly assess the state of the crane and related components for performance, lifespan, productivity and financial viability. It is a key part of the Konecranes service offering, and is a useful tool for customers to keep abreast of the state of their crane operations. For example, the girders on this project had cracks that had to be repaired, and it made sense to repair rather than replace based on our analysis and ultimately contributed to the cost efficiencies achieved” concluded Rautenbach.

The metals and mining industries in particular, require engineering solutions that operate reliably in tough environments. Konecrane’s design and manufacturing capability ensures that any modernisation or upgrading of cranes offers minimum production interference, and once installed and quality checked ensures a reliable and trouble-free re-entry into operation for the customer.