Market Sector Use
Mining

RG Tanna Coal Terminal Expansion - Gladstone

Aerial view of the expansion project

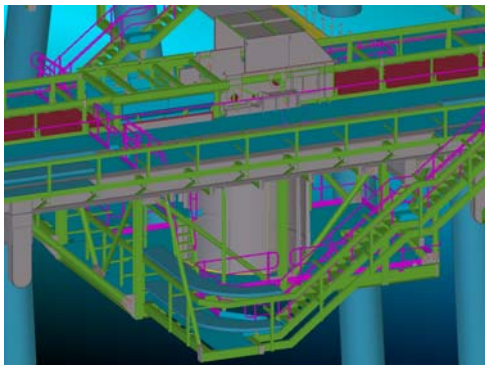
In 2005, the Central Queensland Ports Authority (CQPA) commenced works for an expansion to significantly increase the capacity of the RG Tanna Coal Terminal, already rated as the fifth largest in the world. The terminal receives coal by rail from the southern Bowen Basin, Moura and Callide.

The stockpile expansion included the construction of in-loading and reclaim systems. The in-loading system included transfer and stockpile conveyors with a traveling tripper supported on elevated gallery structures.

GHD provided the structural, mechanical and electrical design for the systems on behalf of the Gladstone Port Authority and acted as construction superintendent.

The contractor, John Holland SMP, engaged Steelcad Drafting to provide steel detailing services for the offshore works, including extensions to Berths 2 and 3, new out-loading conveyors, transfer towers, sample station and the additional Berth 4.

In order to provide a fully co-ordinated result, the 3D model was created using the Tekla Structures software, which integrated the concrete and existing steelwork into the model, along with the structural and mechanical scope of works.



This model was essential in being able to produce the following tasks if/when required:

- 3D dxf & 3D dgn file transfers between engineer / detailer / fabricator
- assistance with the design review process
- able to provide deliverables, such as; drawings / 3D model / CNC data / reports
- digital construction simulation

The biggest challenge to the detailer on the project was to decipher the design intent and gather together sufficient dimensional information to progress the detailing.

Good use was made of the 3D model for clash checking the many structural and mechanical interfaces. The renderings and isometrics that were produced from the 3D model proved very useful in the resolution of RFI's and variations.

Over 3,300 tonnes of steelwork was detailed in 7,500 man-hours on this contract.

At the end of the 2 year expansion project the capacity of the RG Tanna facility was increased from 40 Mtpa to 65 Mtpa. The budgeted capital value of the expansion, including onshore and offshore works, was in the order of AU$230 million.

Information supplied by: Steelcad Drafting P/L – QLD

The 3D model was used extensively for clash checking the many structural and mechanical interfaces