

KGP Berth 3 - Propane Marine Loading Arm Refurb Project

Client: Woodside Energy Limited (WEL)

Overview

Woodside engaged AEC to perform detailed lift planning and design of rigging and installation aids for the removal and replacement of the refurbished Propane Marine Loading Arm (MLA), Z-3501.

The Challenge

Due to time constraints, Woodside selected a floating crane (Heavy Lift Vessel or HLV) to perform the MLA lift, resulting in a highly dynamic lift environment due to vessel roll. The Berth remained fully operational therefore lifting activities were scheduled between LPG/Condensate shipping windows. The limited HLV hook height resulted in a tide-restricted lift window.

The MLA manufacturer (Connex) was not available to provide input to the lifting method or on-site support. The existing lifting points (padeyes) were deemed unsuitable for use by Woodside.

The Solution

AEC developed an innovative solution by designing the following lifting aids:

- Twin stabbing guide system with locking pins.
- A bolt-on Coupler Box lifting frame.
- A slew bearing locking plate to avoid manual alignment of the bearing while the load was suspended.

AEC then produced specialised lift plans, designed all rigging and provided on-site support during all major lift activities.

Outcome

The project was executed successfully and within budget, with the Client, Main Contractor and HLV Operator expressing praise for AEC's design and on-site support efforts.

