



CASE STUDY

VERTECH GROUP

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KGP LNG BERTH 1 & 3 INSPECTION CAMPAIGNS



1 / Introduction

Veritech was tasked with conducting a thorough structural inspection survey of an LNG loading jetty. This comprehensive campaign involved specialised access systems to perform general and close visual inspections and advanced NDT

techniques. The project's overarching goal was to gather critical data for a subsequent life extension campaign, where Veritech collaborated closely with Woodside over six months.

2 / Innovation

The project's innovative approach started with an initial General Visual Inspection (GVI) of the structural elements, succeeded by a Close Visual Inspection (CVI) and Non-Destructive Testing (NDT). The amassed data was pivotal in framing a targeted advanced NDT inspection plan. Veritech employed Phased Array (using a wheel probe), LYFT (PEC), and TOFD corrosion mapping techniques to ensure meticulous assessment. This meticulously detailed assessment paved the way for Veritech's engagement in a 6-month marine Lifting campaign in collaboration with Woodside. The mission encompassed an array of tasks to extend the berths' lifespan. The preparatory phase witnessed substantial planning, work packaging, procurement,

and project management, culminating in a successful and safe maintenance project.

The project was bifurcated into two distinct phases to optimise efficiency and minimise disruptions: Early Works and Main Works. Innovatively, Veritech proposed and executed alternative access methodologies, such as Web decking, Engineered decking, and encapsulation systems. Combined with IRATA Rope access riggers and trades personnel, these systems enabled the team to execute tasks without obstructing vessel access. Notably, this approach translated into significant cost savings, establishing a new benchmark for similar activities on-site.

3 / Project Summary

During the initial stages of the project, several tasks were undertaken as part of the Early Works. These included utilising rope access for core drilling and setting anchors over the side in preparation for the new Rope Rails installation on the Berth 3 LPG jetty, spanning six dolphins. Moreover, bolting initiatives and subsequent anchor replacements were executed, setting the foundation for the forthcoming Rope Rails and Fender updates on the Berth 3 LPG and the Berth 1 LNG jetty. This was particularly challenging in areas affected by tides. To further ensure the effectiveness of these updates, rope access techniques were employed for 3D laser scanning of the current fender bolt designs. This was critical to confirm that the newly manufactured fenders would fit suitably. As the project transitioned into the Main Works, the focus shifted to more intensive tasks. There was a significant emphasis on rigging support to the primary mechanical contractor. This assistance was pivotal in stabilising and getting the loading arms ready for their eventual replacement, all while leveraging the capabilities of a Jack-Up Barge stationed at Berths 1 and 3. Rope access was once again instrumental, enabling Confined

Space Entry into the base risers. This access was crucial for performing in-depth NDT and carrying out surface remediation tasks during the transition from the old to the new loading arm installations. Furthermore, rigging support was also provided during the heavy lifting phases, which concentrated on replacing loading arms on the two berths above. A notable portion of the project was dedicated to removing outdated rope rails. This involved many activities, from cutting and offering rigging support during the lifting process to drilling on-site to install new rails. Additionally, concrete and steel surfaces underwent remediation, and new emergency ladders were set up, requiring coordination with diving contractors in the tidal zones. The project also demanded comprehensive mechanical efforts, especially for removing and replacing fenders. This encompassed heavy lifting, rigging support, establishing tie-back rigging, further concrete and steel surface repairs, and the meticulous task of Hy-Torquing the fixings of the new fenders. Collaboration with diving contractors in tidal zones remained a constant throughout these operations.



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