VERTECH GROUP

CASE STUDY

TRADES PROJECT
RIGGING - ANGEL FLARE

DOCUMENT REF: 51434 | **REVISION:** 0

CLIENT: Woodside Energy Ltd
FACILITY: Angel Platform, unmanned

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1 / Introduction

In January 2016 an inspection via drone of the Angel flare tip platform, revealed serious defects of the flare tip which could compromise production. A project was initiated to replace the flare tip as soon as possible. The implementation for the flare tip change was awarded to Vertech Group.

Vertech was engaged by Wood Group, EPC to establish a methodology to establish access to the flare boom via Rope Access, to install a trolley, "A" frame and Gantry rail system capable of lifting the 5 tonne flare tip to be replaced 110 meters above sea level.

2 / Innovation

Multiple new methodologies and technologies were custom designed to complete this project including:

- Quick install rollers to secure the trolley to flare boom guide rails to minimise pinch point risks,
- The use of a capstan winch and Tyrolean combination to haul material and tooling to the flare tip for site establishment,
- Custom designed temporary access platform and securing mechanism to revert from suspended load to working platform as required.
- Minimal equipment and manning footprint
- Multi-skilled team .

3 / Project Summary

The challenge of establishing safe access to a facility flare boom to install a 14.5 tonne mobile platform, reeving the winch wire for the 40t winch to haul the platform and flare tips was one that Vertech did not take lightly. Working closely with the client for an emergent, production critical scope, Vertech established comprehensive methodologies to ensure that the project could be undertaken safely.

Vertech crews established initial access using rope access systems, to install the trolley to the flare boom. Additional preparatory works were required for the travel path of the 40t winch wire, which were all conducted using rope access. The 40t winch wire was reeved through a sheave cluster at the top of the flare boom using a 2 tonne daughter winch. The winches were installed during initial site set up before the facility shut down. Once the winch was function tested the platform has hauled to the flare boom top some 80 metres. The flare tip in its awkward orientation was required to be restrained during its removal lift to mitigate the unknown centre of gravity and to control the load at all times. The riggers released lever hoists from tie down points as the tip was lifted using a pneumatically operated 7 tonne chain hoist. Once stabilised on the transport cone, the entire trolley was disengaged from the flare tip platform and lowered to the flare boom base. Here the old tip was removed and the new tip loaded. The trolley was system was again hauled to the top for the installation of the new flare tip. Once complete the trolley was lowered and disassembled to be back loaded to the beach. These works were delivered with a team of 9 over 3 weeks, consisting of the following skilled technicians:

- IRATA Level 3 Supervisor/Advanced Rigger
- 3 x Level 3/Mechanical Fitter/Advanced Rigger
- 4 x IRATA Advanced Rigger/Advanced Scaffolders
- IRATA Electrician Advanced Rigger

4 / Reference Contact Details

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