

# Crane removal, refurbishment and reinstallation

**CLIENT** Spirit Energy  
**ASSET** DP6 / 8 platform  
**LOCATION** Morecambe bay, UK

Crane removal for full refurbishment removing structural, mechanical, electrical, hydraulic anomalies to extend operational life

## BENEFITS

Highly skilled offshore and onshore personnel

Specialist engineering advice to ensure cost effective, reliable solutions were adopted



## CHALLENGE

- Sparrows was engaged to complete full refurbishment of two Favco 8 10K cranes and extend operational life by 15 years
- The shipping of the cranes from Heysham to Sparrows workshops in Aberdeen required them to be dismantled into sections to be transported by road. This added time to the workscope and duration the crane would be away from the platform, which impacted on how long a jack-up barge would be required onsite
- The full extent of the repair work required was unknown until the detailed stripdown and inspections could be completed at the workshop
- Due to the age of the cranes, some parts were obsolete and identifying all the changes that had been made was challenging
- Equipment removed from DP6 crane would be rebuilt for DP8 crane, either in Sparrows workshops, through reverse engineering, or working with the Original Equipment Manufacturer (OEM) for refurbishment where applicable
- DP6 crane was completed first, then the DP8 crane had a fixed maximum schedule of five months from point of removal from the platform to completion of commissioning and load test of the re-installed crane
- Hydraulic system changes had been completed and not documented by any management of change.

## SOLUTION

- Onshore completion of the refurbishment meant an implementation team wasn't required on-board
- During removal of the DP6 crane it was identified that the destruction of the crane for road transport to Aberdeen could be streamlined for the re-build and re-installation if the crane was fully built and commissioned, minus boom and A-frame, onshore at Sparrows yard and shipped back to the platform on a supply vessel
- Transporting the crane from Sparrows workshop to Aberdeen harbour required wide load notifications to be lodged with Police Scotland and the local authorities. The 10-week notification period was a critical aspect of the workscope and planning and execution had to be tightly monitored
- Sea fastening was designed and installed to ensure the safe and secure shipment of the crane to and from the platform
- The OEM was consulted for authorisation and agreement of required changes and clarifications regarding historical modifications found on the crane
- Reverse engineering completed to ensure extended life of certain critical components
- Management of change process completed for all upgrades, changes from original OEM specification to provide the technical back up for the applicable changes
- Crane manual and drawing updates completed to capture historical and upgrade changes undertaken on the cranes
- Specific project team and technicians seconded to the DP8 workscope for continuity of work and ensuring that delivery targets would be met; this improved the delivery schedule by four weeks for DP8 in comparison to DP6, reducing the total onshore and offshore refurbishment timeline to four months.



1. Full boom refurbishment.
2. DP8 crane being transported from Sparrows workshop to Aberdeen harbour.

## SUMMARY

### Integrated solutions

- Reliability centred maintenance
- Equipment upgrade
- Hydraulic system management

### Capabilities / services

- Site surveys
- Multi-discipline engineering / design
- Rigging / lifting
- Maintenance / servicing / refurbishment
- Inspection services
- Hydraulic testing
- Reverse engineering
- Manufacturing
- Winch load testing
- Hydraulic Flushing
- Weld procedure development and approval

### Equipment sale and rental

- Rigging / lifting equipment
- Spare parts / components

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