

Vessel crane control system upgrade

ASSET

Construction, flexlay and diving vessel

LOCATION

Singapore

Full upgrade of obsolete control system on Hydralift OMCVCT 3426 155 Te crane

BENEFITS

A high availability Programmable Logic Controller (PLC) to minimise the impact of a failure

Real time operator information to improve performance

Readily available spares to maximise uptime

Accurate manuals and drawings

Onshore support structure for troubleshooting



DELIVERY ASSURED

CHALLENGE

Obsolete controls systems reduce adaptability and are often not supported by Original Equipment Manufacturers (OEMs) in the event of a failure. To mitigate the risk of this and to ensure their deck crane on the vessel had sufficient capacity to programme additional steps required to de-rate it, our client appointed the Sparrows Group to upgrade their crane's control system.

SOLUTION

By supplying and installing a replacement control circuit we provided our client with a solution that allows for future upgrades to be implemented easily and quickly.

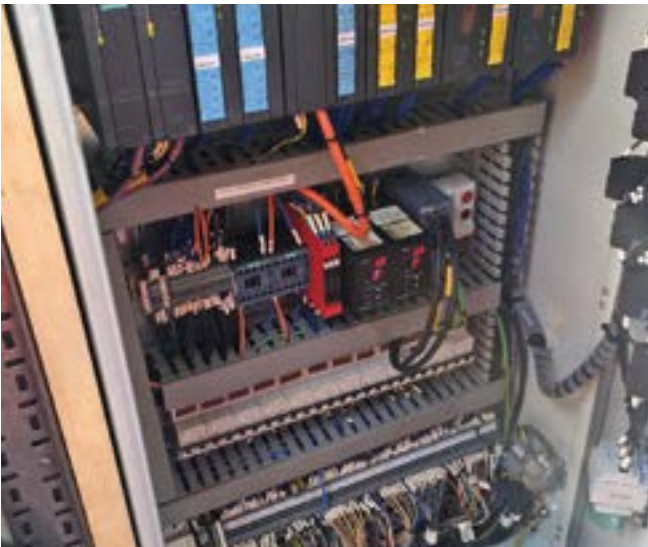
- The control circuit was designed to fit with a Siemens S7-400H with high availability which was chosen as the PLC.
- A high availability PLC increases reliability as it consists of two Central Processing Units (CPU) linked over fibre optic so in the event of a failure on one, the other CPU takes over control.

- The design incorporated all the cranes original functionality with the addition of de-rating to allow the pedestal life extension program to take place. As part of the upgrade a new Safe Load Indicator (SLI) was added to allow the crane to conform to BS EN 13852.
- A Human Machine Interface (HMI) was added into the operators cab to display all operational information in an ergonomic design to the operator when performing lifts.

SUMMARY

- In-house control panel design and build
- PLC and HMI programming
- Siemens 412H PLC Redundant CPU
- Siemens ET200M remote Input/Output (I/O) station
- Siemens TP1200 HMI
- Mipeg 2000R advanced crane load monitoring system
- Industrial high speed communication network

1.



2.



1.
Remote I/O cabinet

2.
HMI screen in cab

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