CASE STUDY

Vessel crane control system upgrade

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

ASSET
Construction, flexlay and diving vessel

LOCATION
Singapore

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

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