Maintenance and Repair Work
Date: December 2012 to October 2013

Client: Royal Australian Navy

Project Summary:
SOFRACO successfully completed maintenance and repair work on the Replenishment At Sea (RAS) System on HMAS SUCCESS during the EMA 08.

HMAS SUCCESS is one of two replenishment oilers operated by the Royal Australian Navy. The RAS System is a critical component of the Underway Replenishment (UNREP) capability which is the primary mission function of the ship.

In December 2012, during EMA 08 SOFRACO was contracted to carry out maintenance on the RAS System. The principle contractor of the EMA 08 was THALES Australia and SOFRACO was awarded the RAS task as part of the EMA. This included maintenance on all the deck equipment including but not limited to:

- Winches
- Sealed Hydraulic Transmission Units
- Electric Motors
- Gearboxes
- System Sensors
- Pneumatic Rams
- Fuel Probes and Running Gear
- Deck and Gantry Sheaves

All winches and deck equipment were removed by SOFRACO from the ship (over 200t) and transported to the workshop in Auburn. The SOFRACO workshop provided a secure and well protected area for storage, inspection and refurbishment.

SOFRACO Engineers inspecting the equipment, detailed their findings in opening reports and PIRs (Problem Identification Reports) outlining repair methods, cost and schedule impacts.

The equipment was found to be degraded extensively with numerous items rendered inoperable and unsafe for service.

SOFRACO submitted in excess of 130 PIRs and over 50 Opening Reports detailing the findings and recommendations for rectification. Over 95% of the PIRs were approved significantly increasing the workload of the project.

SOFRACO enlisted the support of subcontractors in order to complete all growth work on schedule:
- Parker Hannifin - Hydraulic Transmissions and Motors
- Newcastle Hydraulics – Pneumatic Rams
- Arcolec - Electrical testing and wiring
- Nobels & SPE – Mechanical load testing

Following the completion of maintenance and repair work SOFRACO organised a representative engineer from Hepburn Engineering in Canada (system OEM) to assist with system set-to-works and functional testing. SOFRACO is the agent for Hepburn Engineering in Australia.

With the Hepburn engineer, SOFRACO carried out set-to-works and tests as per the RAS Test procedure and commissioned the system prior to HMAS SUCCESS starting sea trials.

Upon the request of ship’s staff SOFRACO provided personnel to sail onboard to assist replenishment at sea tasks.

Reflection
It was evident that majority of defects were due to a lack of routine maintenance on critical moving parts. This could be attributed to inadequate safe accessibility for some components whilst at sea. As a solution SOFRACO proposed the installation of automatic lubricators. These were installed as a pilot project in February 2014 and SOFRACO with ship’s staff are currently monitoring the system condition to assess their effectiveness.