SOFRACO Engineering Systems Pty Ltd
ABN 29 003 569 560
Level 6, 111 - 117 Devonshire Street
Sydney, NSW 2010, Australia
PO Box 562, Strawberry Hills, NSW 2012
Telephone +61 2 9262 3455
Facsimile +61 2 9262 3588

HMAS SUCCESS
Main Air Conditioning System

Engineering Assessment

Date: September 2006

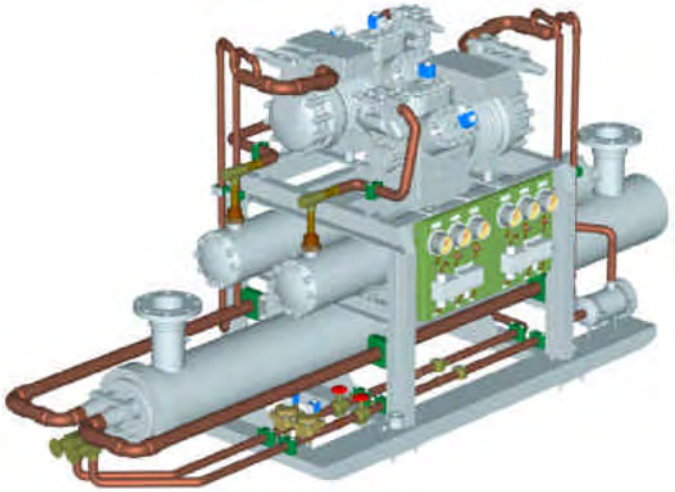
Client: Australian Navy

Project Summary: SOFRACO completed an engineering assessment investigating the replacement of the main air-conditioning chillers on HMAS SUCCESS.

It was determined that the current air conditioning system on HMAS SUCCESS is not capable of meeting the current ships full load whilst the ship is operating in tropical environments. Also modernisation of the ship has increased heat loads to compartments compared to the initial design criteria. These include the addition of mess decks, office spaces, LAN, desktop computers, modernisation of Comms and Ops rooms and the addition of CIWS magazines to the ship.

The resulting high temperature in the spaces has had adverse effects on mission critical systems and has a significant effect on the comfort of the crew.

Current Forward Air Conditioning Unit



Model of one of the Preferred Replacement Units

Also the current chiller units have been problematic with recurring failures and difficulty in sourcing spares often leads to long delays for maintenance.

SOFRACO completed a full assessment of the system, including the engagement of a sub-contractor to complete tests on the system whilst at sea in the tropics.

Using these test results and calculations to the appropriate defence standards the heat load of the current ship configuration was ascertained.

Also during testing there were other aspects fo the system that were contributing to poor performance, including piping issues, dirty coils and ductwork problems. These were investigated and solutions provided as part of the assessment.

To increase the cooling capacity SOFRACO provided four engineering options as a way ahead. These options included the replacement of the main chillers with units capable of servicing the new heat load on the ship. The suppliers that provided information on units included Noske-Kaeser, Carrier and Powerpax.

All of the work was presented in an extensive report which was used as the basis for a detailed design for the upgrade of the system.