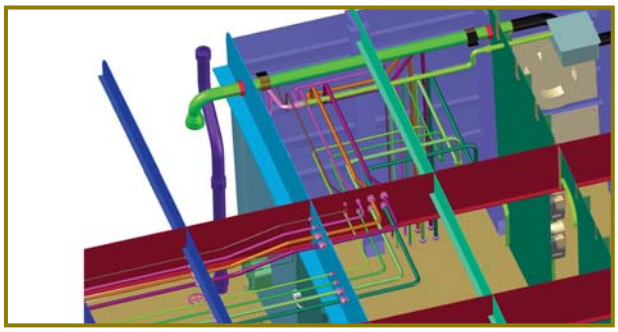
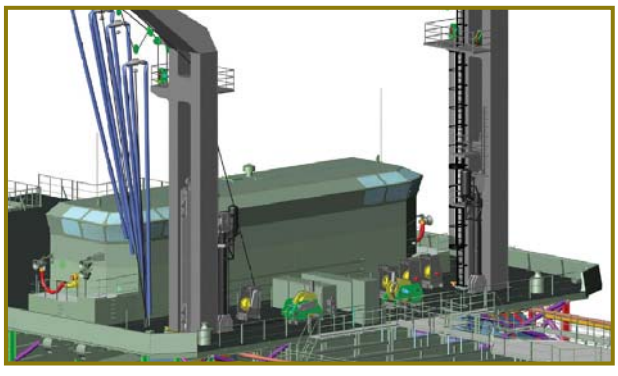
Australian Marine Technologies

Marine Systems Design and Analysis

AMT's Marine Systems team has provided successful design solutions to a range of naval customers encompassing naval rules from RN, RAN, USN & FGN, commercial rules from LRS, GL, DNV and statutory requirements from IMO including MARPOL, SOLAS and IMO codes.



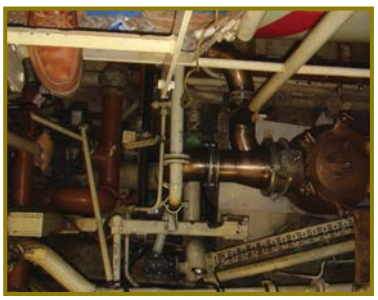
AMT provides Marine Systems advice, technical investigations and solutions across a range of technical areas including Heating, Ventilation, and Air Conditioning (HVAC), Propulsion Systems, Damage Control and Auxiliary Platform Systems. The latest technological tools are utilised during the engineering process including computer software (pipe flow analysis programs such as Pipe Flow Expert and CAD packages including Ship Constructor and AUTOCAD) and field testing equipment (temperature loggers, air flow meters, sound level meters). In the design for the RAN Replacement Tanker conversion, HMAS SIRIUS, AMT developed solutions to meet a hybrid of Classification Society and Naval Standards. Significant challenges



were overcome in the integration of the Rexroth Hydraudyne replenishment system, the pollution control system and cooling for the new communications suite.

AMT's design efforts were acknowledged with the award of a High Commendation in the 2007 Engineers Australia Excellence Award.

Upgrades to the primary propulsion system on the RNZN ANZAC Class Ships provide a great example of AMT's customer focus. The integration of the upgraded the Propulsion Diesel Engines (PDEs) for the ANZAC Ships of the RNZN (increasing the power transmission from 3.6 MW to 4.4 MW) required AMT to conduct detailed analysis of the impacted ship systems, such as combustion air and exhaust systems, sea water cooling systems as well as the consequential impacts on surrounding pipework and structure. The best solution is not always based on technical aspects and in this case a significant focus was placed upon the level of difficulty associated with the installation activity.



This optimal result meant that the total cost and schedule allocated to the project was significantly reduced. AMT also investigated the overall performance of the Sea Water Fire System of the new RAN AWD, HOBART Class ships. The full SW Fire Main System was modeled enabling particular fire scenarios, under various ship operating conditions, to be simulated. Results from these tests provided valuable information regarding likely system performance and an indication of the operational limits of the ships SW Fire System.

AMT has a proven track record in the design and analysis of marine systems for all types of maritime application. AMT applies its broad experience of a range of design standards and ship pedigrees and its expertise within the Navy Technical Regulatory system in the design, integration and/or investigation of systems for any application