



Team One and CCG pool strengths for a winning 14

Team One and CCG partnered closely to win the engineering and processing phase of a contract building fast patrol boats for the Indian Navy. The project is part of an extensive 80-vessel order awarded to Solas Marine Lanka.

Team One is the partner of CCG in the United Arab Emirates region and is specialized in naval architecture, composite engineering and processing support. Early in 2011 the company joined forces with CCG Asia to win a bid for the structural engineering and processing aspects of a major order from the Indian Navy.

The order, which was placed with Solas Marine Lanka Pvt Ltd, comprises the construction of 80 fast patrol boats. A member of the Solas Marine Services Group based in Dubai, Solas Marine Lanka will build the 16 m vessels at its Sri Lanka shipyard.

The project was split into two sections, the first being to engineer a sandwich composite laminate structure for the entire vessel in compliance with the Indian Register of Shipping HSLC Rules and Regulations. The task was to fully utilize the benefits of sandwich structure and to produce a lightweight but strong and long-lasting build with low maintenance.

During the engineering phase, the team made extensive use of design tools like FEA (finite element analysis) to check and optimize critical load areas. In addition, team members used an in-house database of fiber fractions gathered through many hours of testing. By combining this database with processing knowledge, they ensured that the laminate stacks were sequenced in the best way for strength and finish – both vital requirements for the build quality.

Team One took the lead engineering role in the project, with CCG providing input in forming the design strategy. The latter was done based on the selection of materials and the method of building, which will be closed-mold vacuum infusion.

In the next phase, the partners will run on-site training and project management for the build of the first three vessels. During this phase they will oversee the infusion processing of the vessel hull, deck, cabin, bulkhead and associated parts.

All-Noor Goeffers of Team One and Todd Henry of CCG agree that the success of the partnership has been due to the synergies of the two companies and a skill base that joins design experience with sound processing knowledge of closed molding. Together they have designed and optimized a high-tech vessel structure that not only is easy to implement and teach, but also offers long-lasting and trouble-free lightweight design.