

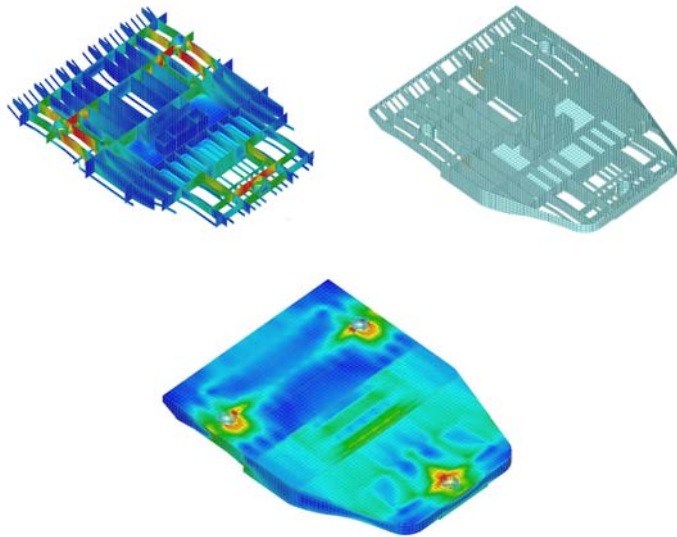


## Marine Case Study (Farrell and Norton Naval Architects – Lift Boat Design)



Farrell and Norton Naval Architects ([www.farrellandnorton.com](http://www.farrellandnorton.com)) is a full service naval architectural and engineering firm that deals with all aspects of vessel design. The firm was established in 2000. The managing partners have over 35 years of design experience in commercial ship building.

Farrell and Norton Naval Architects were asked to design a 145'x110'x12'-6" lift boat with 265-foot legs for BOCONCO Inc. The vessel had to be designed to the American Bureau of Shipping (ABS) Rules for Building and Classing Mobile Offshore Drilling Units. Using NEi Nastran the architects were able to design the hull and legs to withstand the criteria set forth by the ABS. From the global model they were able to create smaller more detailed models of the leg connections to the hull (tower structure) and pads for the bottom of the legs. With the global model that was created the architects were also able to perform a buckling analysis of the legs. NEi Software, Inc. has developed an export capability to ABS' SafeHull program which makes the classification process much smoother and shorter given the compatibility with SafeHull.



The lift boat project was greatly enhanced by the global structural model used to analyze the vessel. The simulation model produced by the software improved the design of the vessel by determining high stress areas for a more detailed fatigue analysis to extend the effective life of the vessel as well as to reduce recurring maintenance costs over the life of the structure. The model also helped expedite the design process by using the global model to extract the loads for the detailed models which helped minimize structure to increase the deck loads. By using NEi Nastran, Farrell and Norton Naval Architects were able to provide their client a more detailed design, address the specific needs of the project and streamline/shorten the design process. The consulting/development cost was reduced by 80 hours; the customer shortened the development process and accelerated the deliverables in terms of time.

**NEi Software, Inc.** is aggressively focused on commitment to the customer. Detailed documentation, customized on-site training, and comprehensive technical support ensures that you will see immediate return on your investment.

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