



Contribution ID: 64

Type: Paper

THE APPLICATION OF GOAL BASED DESIGN FOR PASSENGER SHIP SAFETY IMPROVEMENT.

Thursday, 21 June 2018 09:45 (15 minutes)

SOLAS (International Convention for Safety Of Life At Sea) Chapter II-2/Regulation 17 and Chapter III/Regulation 38 allow for the adoption of “Alternative designs and arrangements” that deviate from the ones permitted by prescriptive regulations. The process to be used for the Alternative Design engineering analysis is documented by SOLAS by means of guidelines and requires a holistic and consistent risk assessment to demonstrate that the risk introduced by the novel design is less or at least equal to the one guaranteed by the prescriptive reference design. This activity de facto introduces the Goal-Based Design into the traditional design process by evaluating safety as a main goal in the ship design. This approach is possible thanks to the research activity aimed at improving the application of the simulation tools that are used to quantify the risk level of a specific design solution and its variants by evaluating the human element in the design. In this paper examples of shipbuilding application of goal based design are presented together with an overview of the new frontier in the adoption of these approaches for the improvement of safety and the maximisation of the ship payload.

Primary authors: Mr BONVICINI, ALESSANDRO (CETENA); Mr DREOSI, MATTEO (CETENA)

Presenters: Mr BONVICINI, ALESSANDRO (CETENA); Mr DREOSI, MATTEO (CETENA)

Session Classification: Ship Design

Track Classification: Conceptual and practical ship design