Small Ro/Pax Vessel stability study - DTU Orbit (09/09/2019)

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In 2009 new damage stability requirements for passenger ships based on a probabilistic method were adopted by IMO and are now part of the current SOLAS Chapter II-1 regulations (SOLAS 2009). The mandate from IMO was to keep the same safety level as inherent in the old deterministic damage stability regulations in SOLAS (SOLAS 90). During the rule development prior to the adoption, it was argued that the safety level for large passenger ships should be increased, but small ro/pax vessels were only rudimentarily looked at and small vessels with very high attained index were seen as "non-representative". Currently there is a renewed debate in IMO regarding the required damage stability safety level for passenger ships. The damage stability safety level for small ro/pax vessels has also been discussed outside of the IMO assuming that the damage stability safety level for small ro/pax designs is perhaps not sufficient, i.e. that the current safety level according to SOLAS 2009 is less than the old safety level according to SOLAS 90. In order to establish a solid foundation for the discussion, this study was made possible by a grant from The Danish Maritime Fund. The study focus on small ro/pax vessels in a range from 32 m to 100 m in length and 100 to 600 passengers/persons, and the outcome of this study is described in details in this document.

General information

Publication status: Published
Organisations: Department of Mechanical Engineering, Fluid Mechanics, Coastal and Maritime Engineering, Lloyd's Register EMEA, HOK Marineconsult ApS, Søfartsstyrelsen
Number of pages: 20
Publication date: 2015

Host publication information

Title of host publication: Proceedings of the World Maritime Technology Conference
Publisher: Society of Naval Architects and Marine Engineers
Source: PublicationPreSubmission
Source ID: 116777291
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review