



Fact sheet – why SAFEDOR is relevant for ship yards

About SAFEDOR

SAFEDOR is an integrated project in the 6th framework programme of the European Commission (CEC). The topic of SAFEDOR is risk-based ship design and approval. The project started in Feb. 2005 and is planned to run for 4 years. The project volume is €20m with €12m funding by the European Commission. Under the coordination of Germanischer Lloyd, 52 organisations - representing all stakeholders of the maritime industry - participate.

What is risk-based ship design and approval?

The motivation to use risk-based approaches is mainly twofold: implement a design which cannot be approved today and / or optimise an existing design with respect to safety. Risk-based ship design is a new methodology that integrates probabilistic / risk-based approaches in the design process of individual ship designs and systems. Safety is considered as one additional design objective during the design process (alongside traditional objectives such as speed and cargo capacity). Risk is used as a measure to evaluate effectiveness of design changes (safety becomes measurable). Approving risk-based designed ships and their intended operation is called risk-based approval.

What is the relation to goal-based standards (GBS)?

SAFEDOR today is often associated with GBS although key differences exist. The IMO debate on GBS will result in a new regulatory framework which is then applicable to rule makers. GBS will be rules for rules. SAFEDOR focuses on individual ship design and the necessary regulatory framework to approve risk-based ships and systems. However, knowledge gained in SAFEDOR can also be used to create risk-based rules for ships and ship systems and to support the development of a safety-level approach to GBS.

What are the expected benefits for ship yards?

Ship yards will substantially benefit from the introduction of risk-based approaches through enabling novel and optimised ships incorporating new layouts, functions and materials. The benefits arise from the fact that yards acquainted with risk-based approaches are among the first to respond to the increasing demand from ship owners to realise novel and innovative ships - which may challenge current prescriptive rules. In addition, production costs may be reduced through application of risk-based approaches. Thus, understanding and applying risk-based approaches now will be a competitive advantage. Ship yards will be able to offer innovative ships beyond current standards. The key asset of risk-based designed ships will be the knowledge to prove compliance with acceptance criteria – and not only the completed design - resulting in opportunities for patenting innovative solutions. The currently discussed risk-based approval process will for the first time offer a reliable schedule for yards willing to implement novel designs. The proposed new approval process is aligned with existing design and production processes at the ship yards and offers a so called preliminary approval as an intermediate milestone to check proposed designs for their feasibility.

To facilitate the above, yards are expected to expand their expertise related to risk-based approaches. In particular, knowledge on risk assessment procedures is needed and modern software tools to support this. Furthermore, cost-benefit analyses will be required as standard in early design. The above only works if sufficiently accurate data on component reliability and costs will be available for the ship designer.

Outlook, contact and more information

SAFEDOR will present main results during the final conference on 27&28 April in London. To find more information on SAFEDOR as well as a selection of public documents, please visit www.safedor.org. For direct contact, please email to the Chairman of the Steering Committee Pierre.Sames@gl-group.com.